Bryant
Payne
Air Conditioning

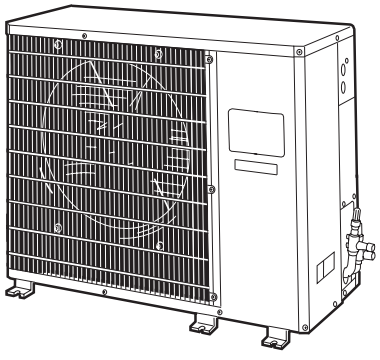
DUCT-FREE, COOLING-ONLY SPLIT SYSTEMS

Model 538A, 538C

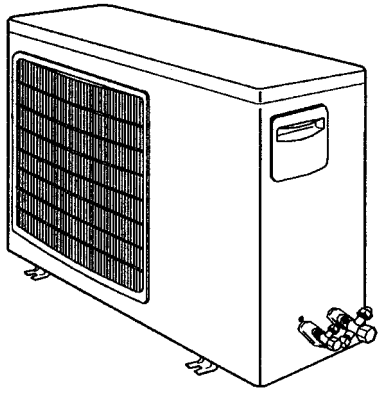
Sizes 009-060

¾ to 5 Tons

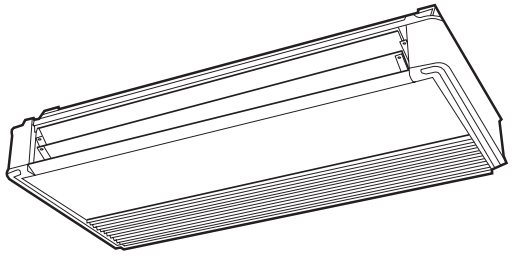
STREAMLINE
DUCT-FREE SPLIT SYSTEM



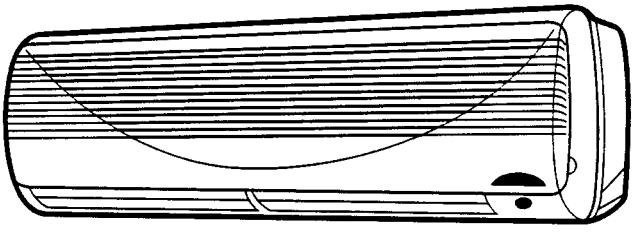
538A
CONDENSING UNIT



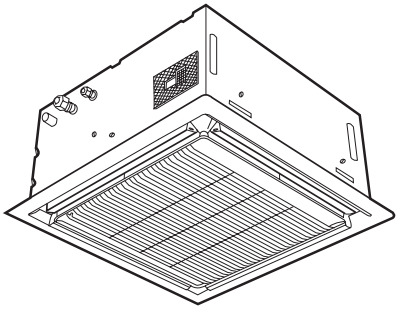
538C (009,012 shown)



619C
CEILING-SUSPENDED FAN COIL



619E
HIGH-WALL FAN COIL



619F
IN-CEILING CASSETTE FAN COIL

DESCRIPTION

These duct-free split systems cool, dehumidify, circulate, and filter the air — with minimum maintenance. They are the ideal complement to your ducted system when it is impractical or prohibitively expensive to use a ducted system. Models 538A and 538C cooling-only condensing units, when matched with model 619 fan coil units, offer many advanced features and reliable operation. To provide year-round comfort for most commercial and residential applications, simply match the standard outdoor condensing unit with an indoor heat pump fan coil unit. Refer to 538B and 538D Product Data literature for indoor heat pump fan coil unit details.

Cooling-only duct-free split systems are perfect for add-ons, such as an office or family room addition, or whenever you have special space requirements (for example, a computer room). Duct-free split systems are also ideal when changes in the cooling load cannot be handled by the existing system; for instance, when adding heat generating equipment to an already air-conditioned space.

Duct-free split systems can also be used when adding air conditioning to spaces with no existing ductwork that are heated by hydronic or electric heat. Historical renovations are another application for which duct-free split systems are well suited, especially when preserving the appearance of the original structure is essential.

When noise is a concern, these whisper-quiet split systems are your answer because you don't have to worry about duct design.

If security is an issue, outdoor and indoor units are connected only by refrigerant piping to prevent intruders from crawling through ductwork.

In addition, the compact duct-free split systems take only a few hours to install, without any major interruptions to the customers' workplace or home.

Form No. PDS 538A,C.09.1

STANDARD SYSTEM FEATURES

HIGH-EFFICIENCY design with SEERs (Seasonal Energy Efficiency Ratios) up to 12.0.

MICROPROCESSOR CONTROL on high wall units for accurate control of the desired comfort level.

WIRED 24V CONTROLLER on in-ceiling (619F) and ceiling-suspended (619C) units makes it convenient for the user to control system settings like fan speed, operating modes, and temperature. The controller features a liquid crystal display (LCD) that indicates system status at a glance.

DIAGNOSTICS alert the user to the existence of problems. Diagnostics are standard for 619E high wall units and optional with the electronic programmable thermostat accessory for 619C and 619F units.

BUILT-IN RELIABILITY COMPONENTS include a suction-line accumulator that safeguards the compressor against loss of lubrication and start capacitors and relays (non-scroll units) to assure dependable start-ups, especially during low-voltage conditions (down to 187 v). High- and low-pressure safety switches, crankcase heater (non-scroll compressor units), liquid line filter drier, and lock-out protection are also standard on most sizes.

The indoor units include protection against freeze-up and high discharge temperature.

RESTART FUNCTION FOR AUTOMATIC START AFTER A POWER FAILURE eliminates the need to manually reset the unit after a power failure. The unit restarts in the same mode that was operating prior to the power loss and also retains the selected set point.

AUTOMATIC AIR SWEEP ensures evenly-distributed air within the conditioned space for ultimate comfort. The air sweep feature sweeps the air from side to side on high wall units and up and down on ceiling-suspended units (not available on in-ceiling cassette units).

WEATHER-PROTECTED CABINET on condensing units is protected with a heavy, galvanized steel coating, then coated again with a layer of zinc phosphate to which a coat of polyester powder is applied and baked on. This provides each unit with a hard, smooth finish that will last for many years.

All screws on the cabinet exterior are coated for long-lasting, rust-resistant, quality appearance.

TOTALLY ENCLOSED FAN MOTOR means greater reliability under rain conditions and dependable performance for many years. Permanent-split-capacitor-type motors provide the most economical operation.

REFRIGERANT SYSTEM is designed to provide dependability. Each unit leaves the factory with a refrigerant charge. Refrigerant service connections make checking operating pressures easier. For precise refrigerant control, all 018-060 fan coil units feature an AccuRater® piston, and 009,012 outdoor units feature capillary tubes.

FIELD-INSTALLED ACCESSORY DESCRIPTION AND USAGE

Internal Condensate Pump — The pump provides condensate lift capability, and is an accessory for ceiling-suspended (619C) and high wall (619E) fan coil units. It is standard on in-ceiling cassette (619F) fan coil units.

SUGGESTED USE:

- The condensate pump accessory is recommended when adequate drain line pitch cannot be provided.

Power Ventilation Kit — This kit provides up to 20% outdoor air intake capability for the in-ceiling cassette (619F) units and up to 30% capability on ceiling-suspended (619C) units. The supplied filter clean the outdoor air, and a booster fan with speed control is provided to allow for long duct runs and to balance airflow to the unit for consistent unit operation.

SUGGESTED USE:

- Applications where outdoor air intake capability is important.

Fresh Air Intake Kit — This kit provides for a variable amount (up tp 30%) outdoor-air capability for the ceiling-suspended (619C) and cassette (619F) fan coil units. Outdoor air is filtered before entering the fan coil unit.

SUGGESTED USE:

- Applications where outdoor air intake capability is important.

Charcoal Filter Kit —The charcoal (carbon) filter kit is available for high wall (619E) fan coil units. This accessory improves indoor air quality by removing volatile organic compounds (VOCs), odors, and microparticles from the air. The filter kit can be installed either before or after the unit has been mounted to the wall. Filters must be changed approximately every 3 months.

SUGGESTED USE:

- When enhanced indoor air quality is required.

Indoor Guard — The indoor guard (also called a discharge grille) is a decorative wire guard for the ceiling-suspended (619C) fan coil units.

SUGGESTED USE:

- Use to prevent objects from entering the unit and air sweep.

Electronic Programmable Thermostat — This programmable accessory thermostat is available for the in-ceiling cassette (619F) and ceiling-suspended (619C) fan coil units. The commercial-grade thermostat provides 7-day, 4 event-per-day scheduling. The integral subbase provides 3-speed fan switchover capability, air sweep, auto changeover, and non-volatile memory (no battery required).

SUGGESTED USE:

- When enhanced system control is desired.

Crankcase Heater — Crankcase heaters are an accessory for 538A condensing units with scroll compressors. Heaters are standard on units without scroll compressors.

SUGGESTED USES:

- Scroll compressor applications with line lengths over 100 ft.
- Scroll compressor applications where an accessory low-ambient kit has been installed.

Winter Start Control — This condensing unit accessory is a single-pole, single-throw delay relay which bypasses the low-pressure switch for approximately 3 minutes to permit start-up for cooling operation under low load conditions at low-ambient temperatures.

SUGGESTED USES:

- All 538A units which have the accessory low-ambient kit installed.
- Applications where low-ambient cooling is required between 55 F and 40 F outdoor-air temperature.

Low-Ambient Temperature Controls (down to −20 F) — The low-ambient kit is a solid-state head pressure controller designed to control condenser fan cycling, and is activated by a pressure sensor. It is specifically designed to control fan-motor cycles in response to saturated condensing pressure. This device maintains a constant saturated condensing temperature of 100 F ± 10 F at outdoor-air temperatures between 55 F and −20 F, and may be used on all 538A and 538C condensing units without changing the condenser-fan motor.

SUGGESTED USE:

- Applications where a significant amount of unit cooling operation is necessary at outdoor-air temperatures below 55 F.

Liquid Solenoid Valve — This accessory is an electrically operated shutoff valve that is installed at the outdoor unit to stop and start refrigerant flow in response to compressor operation. The valve maintains a column of refrigerant in the liquid line between compressor operating cycles and is required for certain long-line applications and to improve system performance.

SUGGESTED USE:

- With 538A units to achieve maximum efficiency and on all long-line applications (over 100 ft).

CONTENTS

Page

Model Description 3
ARI Capacities 4
Standard Features and Field-Installed Accessories 5
Specifications 6-12
Dimensional Drawings 13-19
Selection Procedure 20
Gross Cooling Capacities 21-35
Electrical Data 36
Typical Installation 37-40
Application Data 41-48
Typical Wiring Schematics 49-53
Operating Sequence 54-56
Engineers' Specification Guide 57-60

MODEL DESCRIPTION

COOLING ONLY CONDENSING UNITS

538A N X 024 000 A

Model
538A, 538C — Air-Cooled Condensing Units

Voltage Designation
A — 115-1-60*
E — 460-3-60†
N — 208/230-1-60
P — 208/230-3-60†

X — All Models

Current Series Code
A — All Models

000 — All Models

Nominal Capacity

009** — 3/4 Ton	**030†† — 2 1/2 Tons**
012** — 1 Ton	**036†† — 3 Tons**
018†† — 1-1/2 Tons	**048†† — 4 Tons**
024†† — 2 Tons	**060†† — 5 Tons**

*538C009 units only.
†036-060 units only.
**538C only.
††538A only.

COOLING ONLY FAN COILS

619E N X 012 0E0 A

Model
619C — Ceiling- Suspended Sizes 018 - 060
619E* — High Wall Sizes 009-024
619F — In-Ceiling Cassette Sizes 024, 036

Voltage Designation
A — 115-1-60*
N — 208/230-1-60

X — All Models

Current Series Code
A — All Models

Heating
0E0 — No Heat

Nominal Capacity

009 — 3/4 Ton	**036** — 3 Tons
012 — 1 Ton	**048** — 4 Tons
018 — 1-1/2 Tons	**060** — 5 Tons
024 — 1 1/2 or 2 Tons	

*619E009 units only.

ARI* CAPACITIES

FAN COIL TYPE	INDOOR SECTION	OUTDOOR SECTION	STANDARD CFM	NET COOLING (Btuh)	TOTAL kW	SEER	EER	OUTDOOR SOUND RATING (Decibels)
High Wall	619E009	538C009	215	8,500	0.88	10.5	9.70	64
	619E012	538C012	302	11,600	1.15	11.0	10.10	65
	619E018	538A018	480	17,300	1.66	11.3	10.40	70
	619E024	538A024	550	22,600	2.09	12.0	10.80	68
Ceiling Suspended	619C024	538A018	500	18,000	1.64	12.0	10.95	70
		538A024	600	22,800	2.07	12.0	11.00	68
	619C036	538A030†	840	30,000	2.73	12.0	11.00	68
		538A036	840	34,000	3.25	12.0	10.45	68
	619C048	538A048	1200	47,000	4.37	12.0	10.75	72
	619C060	538A060	1600	58,000	5.18	12.0	11.20	72
In-Ceiling Cassette	619F024	538A018	525	18,300	1.76	11.0	10.40	70
	619F036	538A024	915	24,000	2.20	11.0	10.90	68
		538A030	915	30,000	3.13	10.8	9.60	68
		538A036†	915	33,000	3.14	10.8	10.50	68

LEGEND

Bels — Sound Levels (1 bel = 10 decibels)
EER — Energy Efficiency Ratio
SEER — Seasonal Energy Efficiency Ratio

*Air Conditioning & Refrigeration Institute.
†Includes Liquid Line Solenoid Valve.

NOTES:
1. ARI rating condition is 80 F db, 67 F wb air entering evaporator and 95 F db air entering condenser.
2. Total kW is for total system, including compressor and outdoor and indoor fans.
3. Ratings are based on 25 ft of interconnecting refrigerant line.

ARI 210/240

(When used with matching unit.)

ARI 270

STANDARD FEATURES AND FIELD-INSTALLED ACCESSORIES

STANDARD FEATURE/FIELD-INSTALLED ACCESSORY	619E (High Wall)	619C (Ceiling Suspended)	619F (In-Ceiling Cassette)
Internal Condensate Pump	A	A	S
Mounting Brackets	S	S	S
Microprocessor Controls	S	—	—
24-V Electro-Mechanical Controls	—	S	S
Cleanable Filters	S	S	S
Charcoal Filter Kit	A	—	—
Programmable Electronic Thermostat	—	A	A
3-Speed Indoor-Fan Motor	S	S	S
Automatic Indoor-Fan Speed Control	S	S	S
Diagnostics	S	S	S
Galvanized Steel Casing (Indoor Unit)	—	—	S
Wired and Wireless Remote Controllers	S (WR)	S (W)	S (W)
Fully Insulated Indoor Unit Cabinet	S	S	S
Automatic Air Sweep	S	S	—
User-Controlled Air Distribution	—	—	S
Power Ventilation Kit	—	A	A
Fresh Air Intake Kit	—	A	A
Auto. Restart Function	S	S	S
Indoor Guard (Discharge Grille)	—	A	—
24-Hour Automatic Start/Stop Timer	S	A	A
50-ft 24 v Control Power Cable	—	S	—
35-ft 24 v Control Power Cable	S (018,024)	—	—
35-ft Power and Control Cable	S (009,012)	—	—
Refrigerant Line Turn Elbow*	—	S	—
High- and Low-Voltage Terminal Blocks (Indoor)	S	S	S
AccuRater® Refrigerant Metering Device	S†	S	S
Evaporator Coil Freeze Protection	S	S	S
Outdoor Low-Voltage Terminal Block	S	S	S
Crankcase Heater (Reciprocating Compressors)	S	S	S
Crankcase Heater (Scroll Compressor Units)**	A	A	A
High-Pressure Switch*	S	S	S
Low-Pressure Switch*	S	S	S
5-Year Compressor Warranty	S	S	S
Compressor Start Assistance (non-scroll units)*	S	S	S
Cycle-LOC™ Device*	S	S	S
Suction and Discharge Service Taps††	S	S	S
Totally Enclosed Fan Motor	S	S	S
Acoustically-Lined Compressor Compartment	S	S	S
Winter Start Control*	A	A	A
Low Ambient Temperature Controls (down to −20 F)	A	A	A
Compressor Time Guard® Cycle Protector	S	S	S
Liquid Solenoid Valve*	A	A	A
FIELD FABRICATED ACCESSORIES‖			
Snow Stand	A	A	A
Ice Stand*	A	A	A
Wind Baffles	A	A	A
Stacking Kit*	A	A	A
Condensing Unit Wall Mount Kit*	A	A	A

LEGEND

A — Field-Installed Accessory
S — Standard from the Factory
W — Wired (24 v)
WR — Wireless Remote
— — Not Available on this System

*For size 018 and larger.
†Capillary tubes are standard on 538C009 and 012 systems.
**Crankcase heaters are standard on 538A units without scroll compressors, and are recommended as an accessory for scroll compressor applications with line lengths over 100 ft and applications using low-ambient kits.
††The 538A units are equipped with 4 taps; one for each service valve, and one each on compressor suction and discharge.
‖Drawings available from factory representative.

SPECIFICATIONS — 538C CONDENSING UNITS

UNIT 538C	009	012
NOMINAL CAPACITY (Tons)	¾	1
OPERATING WEIGHT (lb)	55	62
REFRIGERANT TYPE	R-22	
Control (Cooling)	Capillary Tube	
Factory Charge (lb)	1.5	1.8
COMPRESSOR TYPE	Hermetic Rotary	
Model	EAA090111A	EBB120111A
Oil (Recharge) (oz)	10.1	10.1
Crankcase Heater	None	
Accumulator	Yes	
OUTDOOR FAN	Propeller, Direct Drive	
Rpm	850	850
Diameter (in.)...No. of Blades	12¼...4	12¼...4
Motor Watts	87	87
Nominal Air Cfm	750	750
OUTDOOR COIL	Copper Tube, Aluminum Fin	
Face Area (sq ft)...No. of Rows	3.5...1	3.5...2
Fins/in.	18	17
CONTROLS		
Fusible Plug (F)	210	210
Control Voltage	115	230
REFRIGERANT LINES		
Connection Type	Male Flare	
Liquid Line OD (in.)	¼	¼
Vapor Line OD (in.)	½	½
Maximum Length (ft)	35	35
Maximum Lift Fan Coil (Above Outdoor) (ft)	16	16
Maximum Lift Fan Coil (Below Outdoor) (ft)	30	30
EXTERNAL FINISH	Beige	

*These units may only be used with 619E009,012 fan coil units.

SPECIFICATIONS — 538A CONDENSING UNITS

UNIT 538A	018	024	030	036
NOMINAL CAPACITY (Tons)	1½	2	2½	3
OPERATING WEIGHT (lb)	150	154	169	179
REFRIGERANT TYPE	R-22			
Control (Cooling)	AccuRater® Piston at Fan Coil Unit			
Factory Charge (lb)*	3.6	4.8	5.2	5.4
COMPRESSOR				
Type	Tecumseh Reciprocating	Copeland Scroll		
Model	AW5517G	ZR23K1	ZR28K1	ZR34K3
Oil (Recharge) (oz)	30	25	25	38
Crankcase Heater (Watts)	19	None	None	None
Accumulator	Yes			
OUTDOOR FAN	Propeller, Direct Drive			
Rpm	850	850	850	850
Diameter (in.)...No. of Blades	18...3	18...3	18...3	18...3
Pitch (Degrees)	25	27	27	31
Motor Hp	⅛	⅛	⅛	⅛
Nominal Air Cfm	1720	1720	1720	1720
OUTDOOR COIL	Copper Tube, Aluminum Fin			
Face Area (sq ft)...No. of Rows	6.1...1.5	6.1...2	6.1...3	6.1...3
Fins/in.	15	15	15	15
CONTROLS				
High-Pressure (psig)				
Cut-in	320 ± 20			
Cutout	426 ± 7			
Low-Pressure (psig)				
Cut-in	22 ± 5			
Cutout	7 ± 3			
Fusible Plug	210 F			
Control Voltage†	24			
REFRIGERANT LINES				
Connection Type	Sweat			
Liquid Line OD (in.)	⅜	⅜	⅜	⅜
Vapor Line OD (in.)	⅝	⅝	¾	⅞**
Maximum Length (ft)	200	200	200	200
Maximum Lift Fan Coil (Above Outdoor) (ft)	65	65	65	65
Maximum Lift Fan Coil (Below Outdoor) (ft)	150	150	150	150
EXTERNAL FINISH	Alpine Mist (Beige)			

*See System Piston Guide and Refrigerant Charges table in Application Data section on page 41 for proper charge and piston with each fan coil type.

†24 v and a minimum of 40 va is provided in the fan coil unit.

**Valve connection size is ¾ inch. Recommended line size is ⅞ inch.

SPECIFICATIONS — 538A CONDENSING UNITS (cont)

UNIT 538A	048	060
NOMINAL CAPACITY (Tons)	4	5
OPERATING WEIGHT (lb)	270	290
REFRIGERANT TYPE	R-22	
Control (Cooling)	AccuRater® Piston at Fan Coil Unit	
Factory Charge (lb)*	7.4	13.6
COMPRESSOR		
Type	Copeland Scroll	Carrier Scroll
Model	ZR49K3	SY60AC
Oil (Recharge) (oz)	53	52
Accumulator	Yes	
OUTDOOR FAN	Propeller, Direct Drive	
Rpm	850	850
Diameter (in.)...No. of Blades	24...3	24...3
Pitch (Degrees)	24	24
Motor Hp	¼	¼
Nominal Air Cfm	3900	3900
OUTDOOR COIL	Copper Tube, Aluminum Fin	
Face Area (sq ft)...No. of Rows	12.3...2	12.3...3
Fins/in.	15	15
CONTROLS		
Cut-in	320 ± 20	
Cutout	426 ± 7	
Low-Pressure (psig)		
Cut-in	22 ± 5	
Cutout	7 ± 3	
Fusible Plug	210 F	
Control Voltage†	24	
REFRIGERANT LINES		
Connection Type	Sweat	
Liquid Line OD (in.)	⅜	⅜
Vapor Line OD (in.)	⅞	1⅛**
Maximum Length (ft)	200	200
Maximum Lift Fan Coil (Above Outdoor) (ft)	65	65
Maximum Lift Fan Coil (Below Outdoor) (ft)	150	150
EXTERNAL FINISH	Alpine Mist (Beige)	

*See System Piston Guide and Refrigerant Charges table in Application Data section on page 41 for proper charge with each fan coil type.
†24 v and a minimum of 40 va is provided in the fan coil unit.
**Valve connection size is ⅞ inch. Recommended line size is 1⅛ inch.

SPECIFICATIONS — 619E HIGH WALL UNITS

UNIT 619E	009*	012*
NOMINAL CAPACITY (Tons)	¾	1
NOMINAL SIZE (Btuh)	9000	12,000
OPERATING WEIGHT (lb)	18.7	24.2
MOISTURE REMOVAL RATE (Pints/Hr)	2.4	3.4
FINISH	White	
REFRIGERANT	R-22	
Control (Cooling)	Capillary Tube in Outdoor Unit	
Factory or System Charge (lb)†	1.5	1.8
INDOOR FAN	Direct Drive Centrifugal	
Rpm...Cfm High	1200...240	1040...260
Rpm...Cfm Medium	1100...210	940...240
Rpm...Cfm Low	1000...180	850...210
Motor Watts	34	35
Blowers — No. ...Size (in.)	1...3.54 x 27.75	1...3.94 x 27.75
INDOOR COIL	Copper Tube, Aluminum Fin	
Face Area (sq ft)	1.45	1.6
No. of Rows	2	2
Fins/in.	18	17
Circuits	2	3
FILTERS	Cleanable	
(Quantity) Size (in.)	(2) 9 x 12	(2) 9½ x 13¾
AIRSWEEP		
Horizontal	Manual	
Vertical	Automatic	
CONTROLS	Integrated Microprocessor	
Remote Controller	Wireless	
Freeze Protection	Yes	
Auto. Restart	Yes	
Diagnostics	Yes	
Timer Mode	24-Hour Startup/Shutdown Type	
Test Mode	Yes	
Dehumidification Mode	Yes	
Fan Mode	High/Medium/Low/Auto.	
Control Voltage	115 v	230 v
REFRIGERANT LINES		
Connection Type	Male Flare	
Liquid LIne OD (in.)	¼	¼
Vapor Line OD (in.)	½	½
Maximum Length (ft)	35	35
Maximum Lift Fan Coil (Above Outdoor) (ft)	16	16
Maximum Lift Fan Coil (Below Outdoor) (ft)	30	30
CONDENSATE DRAIN CONNECTION (in.)	⅝ OD, 7⁄16 ID	

*Units may only be matched with 538C outdoor units.
†Full factory charge shipped in outdoor unit. Charge is determined based on 25 ft of line.

SPECIFICATIONS — 619E HIGH WALL UNITS (cont)

UNIT 619E	018*	024*
NOMINAL CAPACITY (Tons)	1½	2
NOMINAL SIZE (Btuh)	18,000	24,000
OPERATING WEIGHT (lb)	38.5	42.9
MOISTURE REMOVAL RATE (Pints/Hr)	5.6	6.3
FINISH	White	
REFRIGERANT	R-22	
Control (Cooling)	AccuRater® Metering Device	
System Charge Required (lb)†	4.6	5.3
INDOOR FAN	Direct Drive Centrifugal	
Rpm...Cfm High	1120...550	1470...570
Rpm...Cfm Medium	1050...500	1370...466
Rpm...Cfm Low	950...450	1270...417
Motor Watts	44	49
Blowers — No. ...Size (in.)	2...3.94 x 17.8	2...3.94 x 17.8
INDOOR COIL	Copper Tube, Aluminum Fin	
Face Area (sq ft)	2.56	2.56
No. of Rows	2	3
Fins/in.	15.9	18.1
Circuits	2	3
FILTERS	Cleanable	
(Quantity) Size (in.)	(3) 11½ x 17¾	
AIRSWEEP		
Horizontal	Manual	
Vertical	Automatic	
CONTROLS	Integrated Microprocessor	
Remote Controller	Wireless	
Freeze Protection	Yes	
Auto. Restart	Yes	
Diagnostics	Yes	
Timer Mode	24-Hour Startup/Shutdown Type	
Test Mode	Yes	
Dehumidification Mode	Yes	
Fan Mode	High/Medium/Low/Auto.	
Control Voltage	24 v	
REFRIGERANT LINES		
Connection Type	Male Flare	
Liquid Line OD (in.)	⅜	⅜
Vapor Line OD (in.)	⅝	⅝
Maximum Length (ft)	200	200
Maximum Lift Fan Coil (Above Outdoor) (ft)	65	65
Maximum Lift Fan Coil (Below Outdoor) (ft)	150	150
CONDENSATE DRAIN CONNECTION (in.)	⅝ OD, 7/16 ID	

*Units may only be matched with 538A outdoor units.
†Full factory charge shipped in outdoor unit. Charge shown is for smallest system combination and is determined based on 25 ft of line. See Application Data section on page 41 for information on longer line lengths and condensing unit combinations.

SPECIFICATIONS — 619C CEILING-SUSPENDED UNITS

UNIT 619C	018*	024	036	048	060
NOMINAL CAPACITY (Tons)	1½	2	3	4	5
NOMINAL SIZE (Btuh)	18,000	24,000	36,000	36,000	60,000
OPERATING WEIGHT (lb)	108	108	117	149	179
MOISTURE REMOVAL RATE (Pints/Hr)	5.8	7.1	9.5	13.4	15.1
FINISH	GM Motorhome White with Black Trim				
REFRIGERANT	R-22				
Control (Cooling)	AccuRater® Piston in Fan Coil				
System Charge Required (lb)	3.7	5.5	5.4	7.4	13.6
INDOOR FAN	Direct Drive Centrifugal				
Rpm...Cfm High	862...500	1050...600	1275...840	1435...1200	1275...1600
Rpm...Cfm Medium	690...400	690...400	972...740	1388...1160	972...1220
Rpm...Cfm Low	552...320	552...320	830...640	1315...1100	830...1040
High Speed Watts	92	92	282	425	564
Quantity...Motor Hp	1...1/16	1...1/16	1...1/6	1...1/6 1...1/16	2...1/6 —
Blowers — No. ...Size (in.)	2...6 x 8	2...6 x 8	2...6 x 8	3...6 x 8	4...6 x 8
INDOOR COIL	Copper Tube, Aluminum Fin				
Face Area (sq ft)	2.2	2.2	2.6	3.0	4.0
No. of Rows	4	4	4	4	4
Fins/in.	14.9	14.9	14.9	14.9	14.9
Circuits	4	4	4	8	8
FILTERS	Cleanable				
(Quantity) Size (in.)	(4) 12 x 8¾		(5) 10⅝ x 8¾	(4) 10⅝ x 8¾ (2) 12 x 8¾	(6) 12 x 8¾
AIRSWEEP					
Horizontal	—				
Vertical	Automatic				
CONTROLS	Solid-State Electromechanical				
Remote Controller	Hard-Wired				
Auto. Restart	Yes				
Diagnostics	Yes (with accessory programmable thermostat)				
Timer Mode	24-Hour Countdown Type				
Test Mode	Yes				
Fan Mode	High/Medium/Low/Auto.				
Control Voltage	24 v				
REFRIGERANT LINES					
Connection Type	Flare				
Liquid Line OD (in.)	3/8				
Vapor Line OD (in.)	5/8	5/8	3/4	3/4	3/4
Maximum Length (ft)	200				
Maximum Lift Fan Coil (Above Outdoor) (ft)	65				
Maximum Lift Fan Coil (Below Outdoor) (ft)	150				
CONDENSATE DRAIN CONNECTION (in. MPT)	3/4**				

*The 619C018 fan coil is a 619C024 fan coil, but uses a different motor speed fan tap plug than the 619C024. Refer to unit installation instructions for more details.

†Condensing (outdoor) unit is shipped with a full charge. The amount of charge shown is for smallest system combination and is determined based on 15 ft of line. See Application Data section on page 41 for information on longer line lengths and condensing unit combinations.

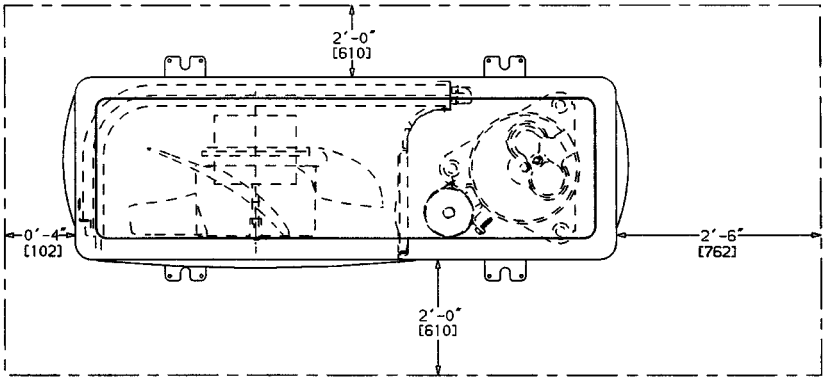
**Flexible tubing (⅝ in.) required when optional condensate pump is used.

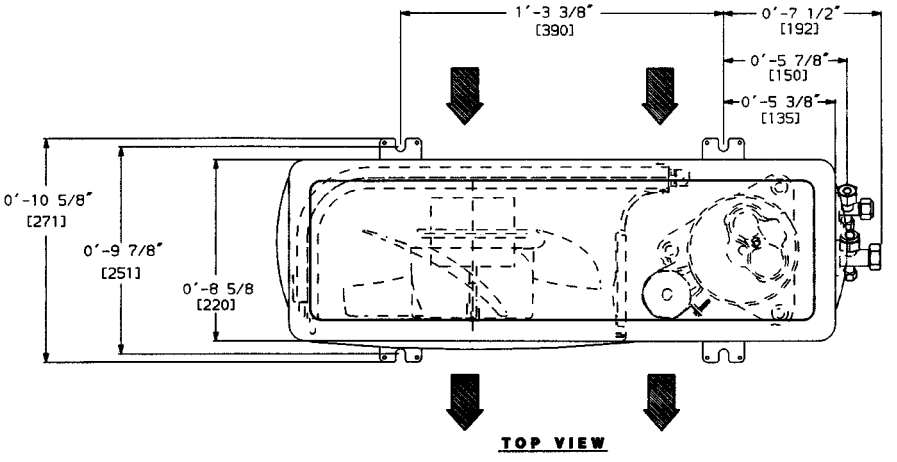
SPECIFICATIONS — 619F IN-CEILING CASSETTE UNITS

UNIT 619F	024	036
NOMINAL CAPACITY (Tons)	1½	3
NOMINAL SIZE (Btuh)	18,000	36,000
OPERATING WEIGHT (lb)	61.6	105.8
MOISTURE REMOVAL RATE (Pints/Hr)	7.0	9.6
FINISH	Ceiling White with Black Discharge Grille	
REFRIGERANT	R-22	
Control (Cooling)	AccuRater® Metering Device	
System Charge Required (lb)*	4.8	6.0
INDOOR FAN	Direct Drive Centrifugal	
Rpm...Cfm High	1190...525	970...915
Rpm...Cfm Medium	930...415	790...745
Rpm...Cfm Low	840...375	635...635
High Speed Watts	100	180
Motor (Quantity) Hp	(1) 1/16	(2) 1/16
Blowers — No. ...Size (in.)	1...10 x 8	2...10 x 8
INDOOR COIL	Copper Tube, Aluminum Fin	
Face Area (sq ft)	2.66	5.67
No. of Rows	3	2
Fins/in.	14.0	14.0
Circuits	4	4
FILTERS	Cleanable	
(Quantity) Size (in.)	(1) 16½ x 16½	(2) 16½ x 16½
AIRSWEEP	None	
CONTROLS	Solid-State Electromechanical	
Remote Controller	Hard Wired	
Auto. Restart	Yes	
Diagnostics	Yes (with accessory programmable thermostat)	
Timer Mode	24-Hour Countdown Type	
Test Mode	Yes	
Fan Mode	High/Medium/Low/—/Auto/Continuous	
Control Voltage	24 v (provided)	
REFRIGERANT LINES		
Connection Type	Flare	
Liquid Line OD (in.)	3/8	
Vapor Line OD (in.)	5/8	3/4
Maximum Length (ft)	200	
Maximum Lift Fan Coil (Above Outdoor) (ft)	65	
Maximum Lift Fan Coil (Below Outdoor) (ft)	150	
CONDENSATE DRAIN CONNECTION	Hose	
CONDENSATE DRAIN SIZE (in.)	1.0	

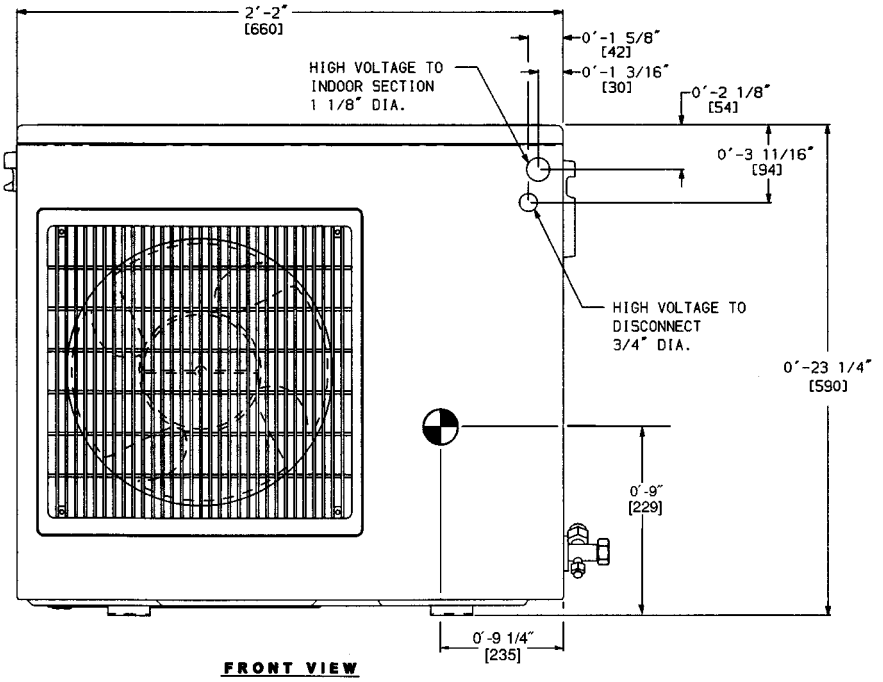
*The condensing (outdoor) unit is shipped with a full charge. The amount of charge shown is for smallest system combination and is determined based on 15 ft of line. See Application Data section on page 41 for information on longer line lengths and condensing unit combinations.

DIMENSIONAL DRAWING — 538C CONDENSING UNITS

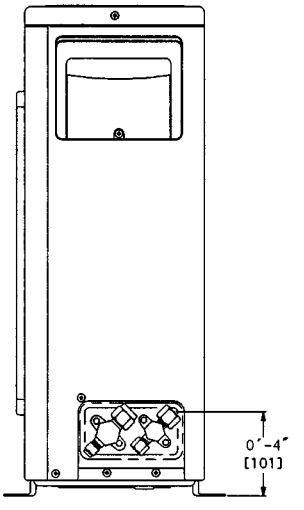




TOP VIEW



FRONT VIEW



RIGHT SIDE VIEW

1. Dimensions in [ ] are in millimeters.
2. ➡ Direction of airflow.
3. ⊕ Center of Gravity.
4. Minimum clearances: 4 in. on coil sides, 24 in. on fan side, and 30 in. on service side.

UNIT 538C	WEIGHT	
	Lb	Kg
009	55.0	25.0
012	62.0	28.1

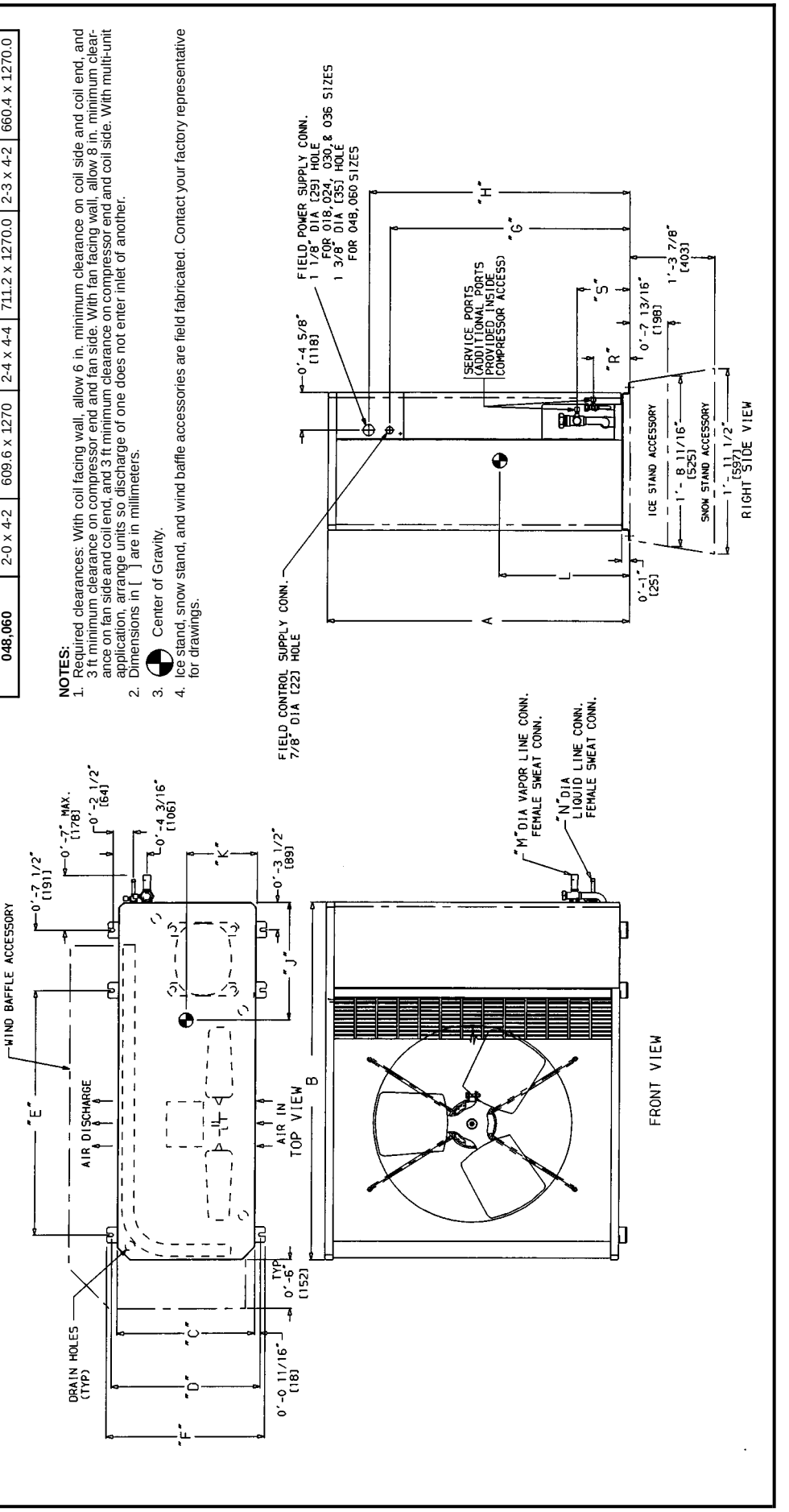
DIMENSIONAL DRAWING — 538A CONDENSING UNITS

UNIT 538A	A		B		C		D		E		F		G		H		J		K		L		M		N		R		S		OPERATING WT	
	ft-in.	mm	ft-in.	mm	ft-in.	mm	ft-in.	mm	ft-in.	mm	ft-in.	mm	ft-in.	mm	ft-in.	mm	ft-in.	mm	ft-in.	mm	ft-in.	mm	ft-in.	mm	ft-in.	mm	ft-in.	mm	ft-in.	mm	Lb	kg
018	2-1⅛	638.2	3-0¹⁵⁄₁₆	938.2	1-2⁹⁄₁₆	369.9	1-4	406.4	1-11⁷⁄₁₆	595.3	1-5³⁄₁₆	436.6	1-5½	444.5	1-8⅛	511.2	1-1¼	336.6	0-6⅝	168.3	0-10³⁄₁₆	274.6	0-0⅜	15.00	0-0⅜	9.52	0-4½	115.0	0-6½	166.0	150	68.0
024	2-1⅛	638.2	3-0¹⁵⁄₁₆	938.2	1-2⁹⁄₁₆	369.9	1-4	406.4	1-11⁷⁄₁₆	595.3	1-5³⁄₁₆	436.6	1-5½	444.5	1-8⅛	511.2	1-2⁷⁄₁₆	366.7	0-6¾	171.4	1- 0	304.8	0-0⅜	15.00	0-0⅜	9.52	0-4½	115.0	0-6½	166.0	154	69.0
030	2-1⅛	638.2	3-0¹⁵⁄₁₆	938.2	1-2⁹⁄₁₆	369.9	1-4	406.4	1-11⁷⁄₁₆	595.3	1-5³⁄₁₆	436.6	1-5½	444.5	1-8⅛	511.2	1-1	330.2	0-6¾	171.4	0-11⅝	295.3	0-0¾	19.05	0-0⅜	9.52	0-4½	115.0	0-6½	166.0	169	76.6
036	2-1⅛	638.2	3-0¹⁵⁄₁₆	938.2	1-2⁹⁄₁₆	369.9	1-4	406.4	1-11⁷⁄₁₆	595.3	1-5³⁄₁₆	436.6	1-5½	444.5	1-8⅛	511.2	1-0¹¹⁄₁₆	322.3	0-6¾	171.4	0-11⅞	301.6	0-0¾	22.22	0-0⅜	9.52	0-4½	115.0	0-6½	166.0	179	81.2
048	3-1⁹⁄₁₆	944.6	3-8⁹⁄₁₆	1131.9	1-5¼₁₆	433.4	1-6⁷⁄₁₆	468.3	2- 6½	774.7	1-7⅜	498.5	2-5⅝	752.5	2-8³⁄₁₆	817.6	1-1¹¹⁄₁₆	347.7	0-8⅛	206.4	1- 4⅛	409.6	0-0⅞	22.22	0-0⅜	9.52	0-4½	115.0	0-6½	166.0	270	122.4
060	3-1⁹⁄₁₆	944.6	3-8⁹⁄₁₆	1131.9	1-5¼₁₆	433.4	1-6⁷⁄₁₆	468.3	2- 6½	774.7	1-7⅜	498.5	2-5⅝	752.5	2-8³⁄₁₆	817.6	1-2¼	361.9	0-8⅛	206.4	1- 4½	419.1	0-0⅞	22.22	0-0⅜	9.52	0-4½	115.0	0-6½	166.0	290	131.5

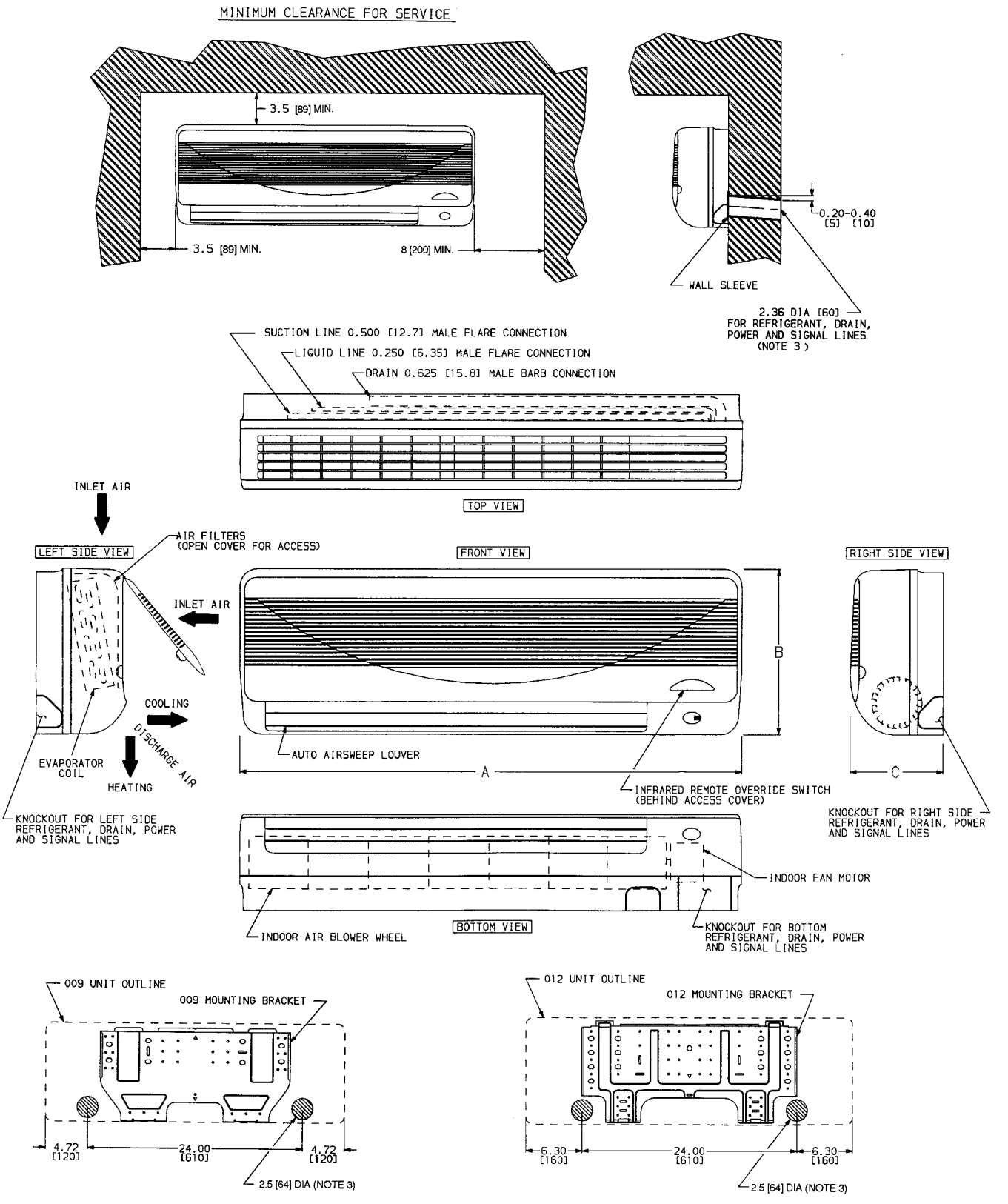
UNIT 538A	MINIMUM MOUNTING PAD DIMENSIONS					
	Support Feet		Snow Stand		Ice Stand	
	ft-in.	mm	ft-in.	mm	ft-in.	mm
018,024,030,036	1-11 x 3-6	584.2 x 1066.8	2-2 x 3-6	660.4 x 1066.8	2-2 x 3-6	660.4 x 1066.8
048,060	2-0 x 4-2	609.6 x 1270	2-4 x 4-4	711.2 x 1270.0	2-3 x 4-2	660.4 x 1270.0

NOTES:

1. Required clearances: With coil facing wall, allow 6 in. minimum clearance on coil side and coil end, and 3 ft minimum clearance on compressor end and fan side. With fan facing wall, allow 8 in. minimum clearance on fan side and coil end, and 3 ft minimum clearance on compressor end and coil side. With multi-unit application, arrange units so discharge of one does not enter inlet of another.
2. Dimensions in [ ] are in millimeters.
3. ⊕ Center of Gravity.
4. Ice stand, snow stand, and wind baffle accessories are field fabricated. Contact your factory representative for drawings.



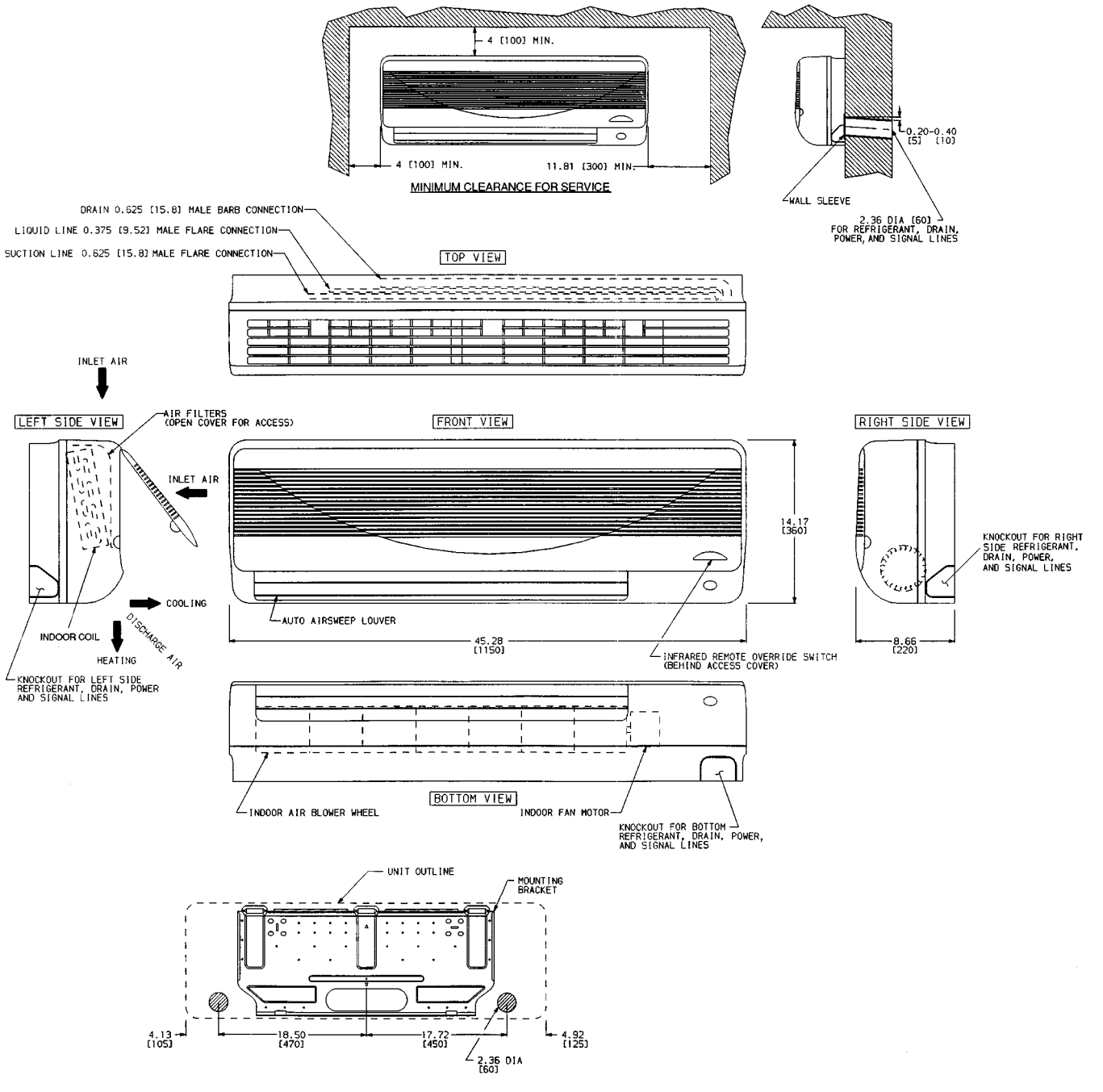
DIMENSIONAL DRAWING — 619E009,012 HIGH WALL UNITS



1. Dimensions are in inches. Dimensions in [ ] are in millimeters.
2. ➡ Direction of airflow.
3. Refrigerant, drain, and power connections may be made rear, left side or right side.
4. Refrigerant is metered by capillary tubes in the outdoor unit. Insulate both refrigerant lines.
5. Clearances of 3½″ on top of and to the left of the fan coil unit are absolute minimums. Clearances of 10″ are recommended.

UNIT 619E	WEIGHT		A		B		C	
	Lb	Kg	in.	mm	in.	mm	in.	mm
009	18.7	8.5	33.46	850	11.02	280	6.29	160
012	24.2	11.0	36.61	930	11.81	300	7.28	185

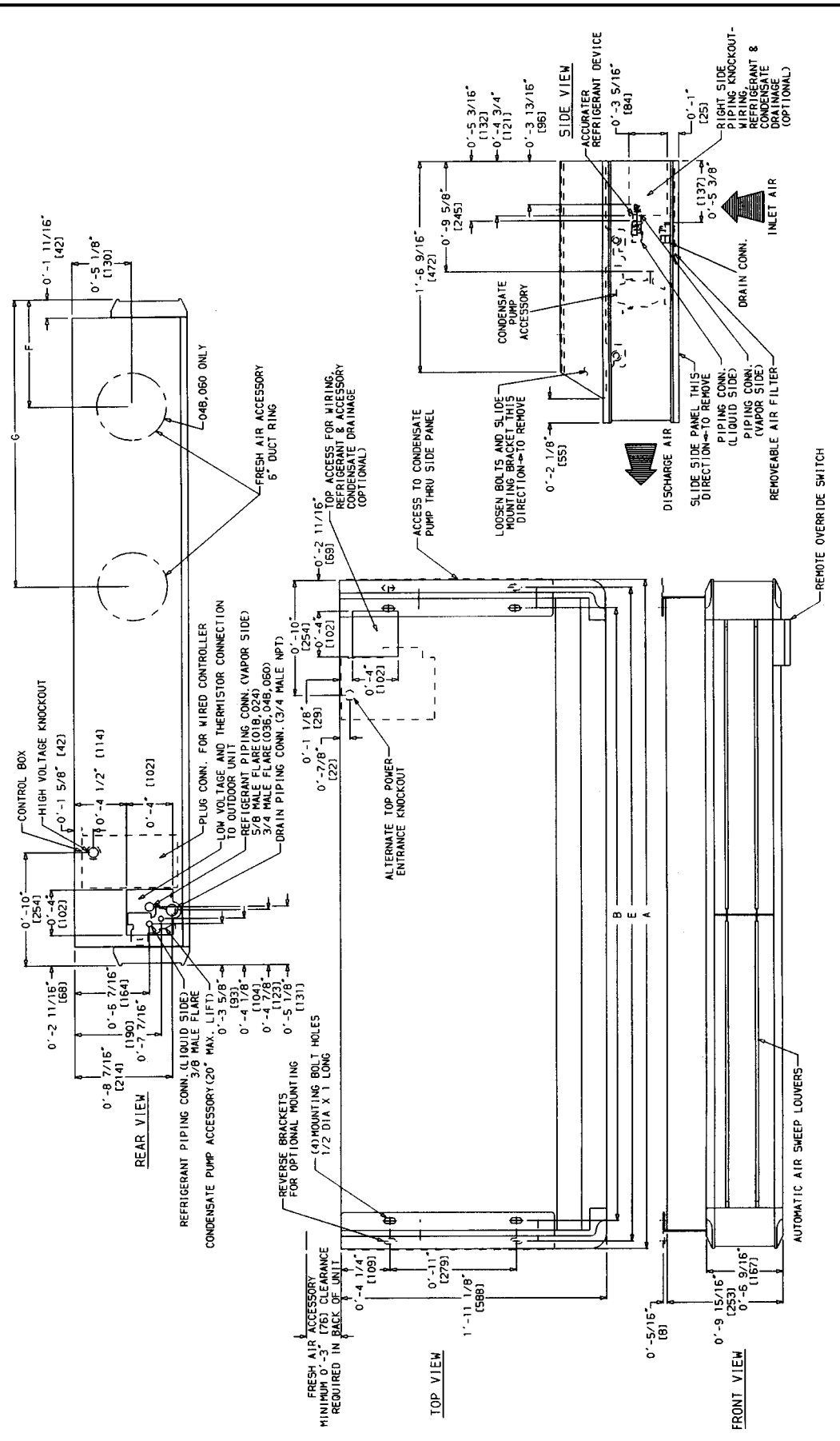
DIMENSIONAL DRAWING — 619E018,024 HIGH WALL UNITS



1. Dimensions in [ ] are in millimeters.
2. ➡ Direction of airflow.
3. Refrigerant, drain, and power connections may be made in unit rear, bottom, left side, or right side.
4. Refrigerant is metered by AccuRater® device at the fan coil unit on 538A applications.
5. The 4″ top and left side clearances are absolute minimums. Clearances of 10″ are recommended.

UNIT 619E	WEIGHT — LB (KG)
018	38.5 (17.5)
024	42.9 (19.5)

DIMENSIONAL DRAWING — 619C018-060 CEILING-SUSPENDED UNITS


REAR VIEW
TOP VIEW
FRONT VIEW
SIDE VIEW
CONTROL BOX
HIGH VOLTAGE KNOCKOUT
PLUG CONN. FOR WIRED CONTROLLER
LOW VOLTAGE AND THERMISTOR CONNECTION TO OUTDOOR UNIT
REFRIGERANT PIPING CONN. (VAPOR SIDE) 5/8 MALE FLARE(018,024) 3/4 MALE FLARE(036,048,060)
DRAIN PIPING CONN. (3/4 MALE NPT)
048,060 ONLY
FRESH AIR ACCESSORY 6" DUCT RING
REFRIGERANT PIPING CONN. (LIQUID SIDE) 3/8 MALE FLARE
CONDENSATE PUMP ACCESSORY (20" MAX. LIFT)
REVERSE BRACKETS FOR OPTIONAL MOUNTING
(4) MOUNTING BOLT HOLES 1/2 DIA X 1 LONG
FRESH AIR ACCESSORY MINIMUM 0'-3" [76] CLEARANCE REQUIRED IN BACK OF UNIT
ALTERNATE TOP POWER ENTRANCE KNOCKOUT
TOP ACCESS FOR WIRING, REFRIGERANT & ACCESSORY CONDENSATE DRAINAGE (OPTIONAL)
ACCESS TO CONDENSATE PUMP THRU SIDE PANEL
LOOSEN BOLTS AND SLIDE MOUNTING BRACKET THIS DIRECTION ↔ TO REMOVE
CONDENSATE PUMP ACCESSORY
ACCURATER REFRIGERANT DEVICE
SLIDE SIDE PANEL THIS DIRECTION ↔ TO REMOVE
PIPING CONN. (LIQUID SIDE)
PIPING CONN. (VAPOR SIDE)
REMOVEABLE AIR FILTER
DISCHARGE AIR
DRAIN CONN.
RIGHT SIDE PIPING KNOCKOUT-WIRING REFRIGERANT & CONDENSATE DRAINAGE (OPTIONAL)
INLET AIR
REMOTE OVERRIDE SWITCH
AUTOMATIC AIR SWEEP LOUVERS

UNIT 619C	WEIGHT (lb)	A		B		E		F		G	
		ft-in.	mm	ft-in.	mm	ft-in.	mm	ft-in.	mm	ft-in.	mm
018,024	108	4- 2 15/16	1294	3-10	1169	4- 1 5/8	1260	—	—	1- 9 5/8	549
036	117	4-10 13/16	1493	4- 5 7/8	1368	4- 9 1/2	1459	—	—	2- 1 1/2	648
048	149	5-11 9/16	1817	5- 6 3/8	1692	5-10 1/4	1783	1- 9 7/8	555	3- 3 1/16	992
060	179	7- 8	2336	7- 3	2211	7- 6 3/8	2302	1-11 5/8	601	4-11 9/16	1512

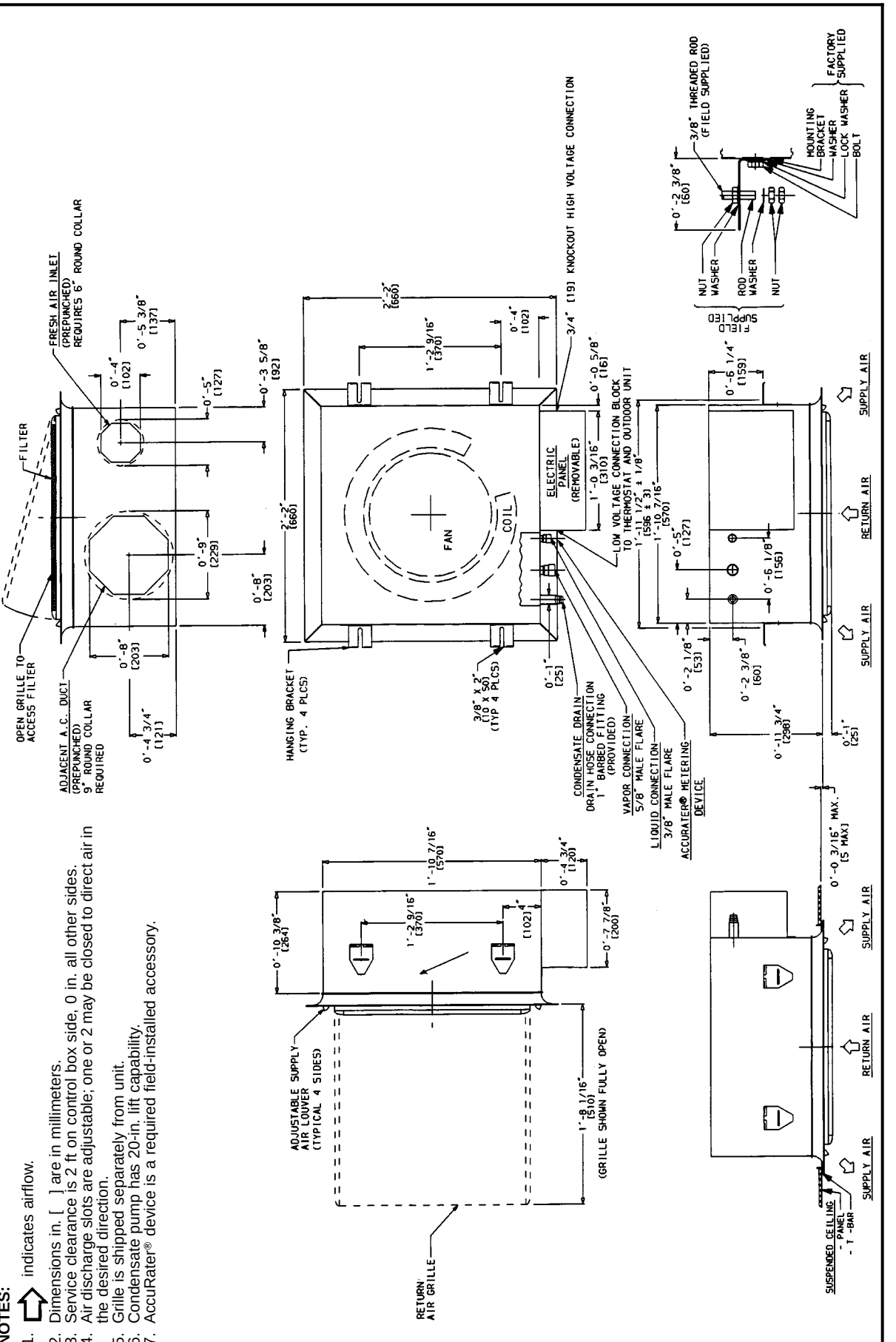
NOTES:
1. Dimensions in [ ] are millimeters.
2. Direction of airflow.
3. Facing unit discharge, unit clearances are as follows:
   - 0 in. on top and rear
   - 3 in. on left side
   - 12 in. on right side
   - 36 in. on bottom

DIMENSIONAL DRAWING — 619F024 IN-CEILING CASSETTE UNIT

UNIT 619F	OPERATING WEIGHT	
	Lb	Kg
024	61.6	28

NOTES:

1. ⇧ indicates airflow.
2. Dimensions in. [ ] are in millimeters.
3. Service clearance is 2 ft on control box side, 0 in. all other sides.
4. Air discharge slots are adjustable; one or 2 may be closed to direct air in the desired direction.
5. Grille is shipped separately from unit.
6. Condensate pump has 20-in. lift capability.
7. AccuRater® device is a required field-installed accessory.

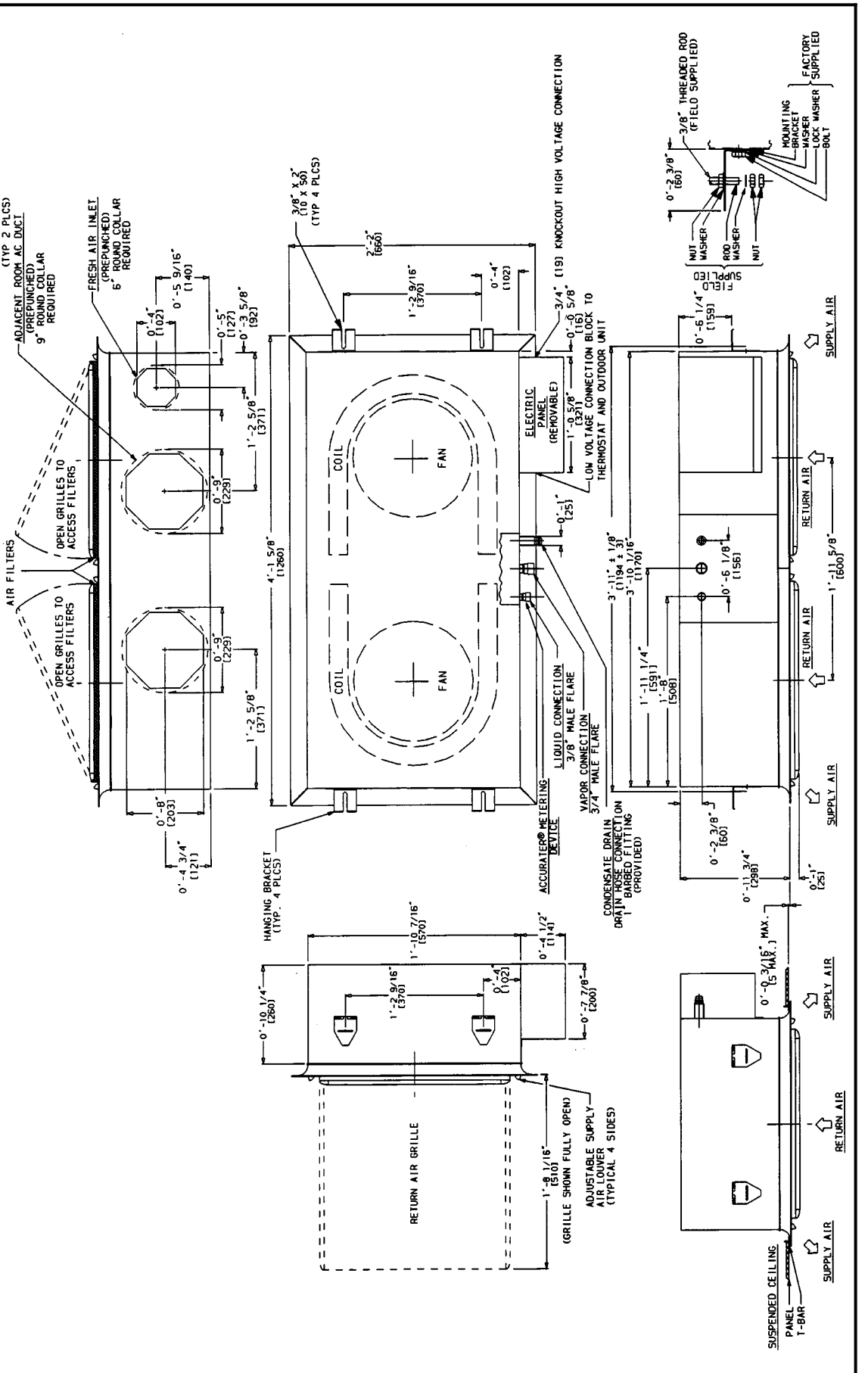


DIMENSIONAL DRAWING 619F036 IN-CEILING CASSETTE UNIT

UNIT 619F	OPERATING WEIGHT	
	Lb	Kg
036	105.8	48

NOTES:

1. ⇧ Indicates airflow.
2. Dimensions in [ ] are in millimeters.
3. Service clearance is 2 ft on control box side, 0 in. all other sides.
3. Air discharge slots are adjustable; one or 2 may be closed to direct air in the desired direction.
5. Grille is shipped separately from unit.
6. Condensate pump has 20-in. lift capability.
7. AccuRater® device is a required field-installed accessory.



SELECTION PROCEDURE (with example)

I DETERMINE THE TYPE OF FAN COIL WHICH BEST SUITS THE APPLICATION (REFER TO SYSTEMS INDEX TABLE ON PAGE 21).

Duct-free split systems have 3 types of fan coils with overlapping capacities to choose from. Select the system type which best meets the job conditions. This example will use a 2-ton ceiling-suspended fan coil (assume wall space is not available for a wall-mounted unit).

II DETERMINE COOLING LOAD REQUIREMENTS AT DESIGN CONDITIONS.

Required Load Conditions:

Required cooling capacity (TCG) . . . . . 23,500 Btuh
Gross Sensible Heat Capacity (SHG) . . . . . 16,000 Btuh
Temperature Air Entering
Condensing Unit . . . . . 95 F
Temperature Air Entering
Indoor Unit (EAT) . . . . . 82 F db/68 F wb

db — dry bulb
wb — wet bulb

III SELECT SYSTEM THAT SATISFIES LOAD REQUIREMENTS.

Enter the Systems Index table on page 21 at ceiling-suspended system for 24,000 Btuh, and select the system that best approximates cooling requirements. System index no. 6 with a nominal net capacity of 22,800 Btuh cooling is the system selected. The system consists of a 538A024 outdoor unit matched with one 619C024 indoor unit.

IV DETERMINE IF SYSTEM SELECTED SATISFIES COOLING REQUIREMENTS.

Enter Cooling Capacities table on page 27 at high speed (600 cfm) and 95 F outdoor entering air temperature (EAT, air entering condenser). By interpolation, at 68 F EAT, the system gross capacity is 23,680 Btuh cooling [(25,200 – 23,300) x (1/5) + 23,300], and 14,980 Btuh SHG (gross sensible capacity). Adjust the SHG in accordance with Note 2 of the Combinations Ratings table, using the correction factor for an 82 F ewb (entering air wet bulb), and a 0.04 BF (bypass factor). The result is an adjusted SHG of 16,141 Btuh. The total gross cooling capacity of 23,680 Btuh and the sensible heat capacity of 16,141 Btuh satisfy stipulated cooling load requirements.

V DETERMINE NET COOLING CAPACITY AND SYSTEM ENERGY EFFICIENCY RATIO.

Determine net cooling capacity (refer to Cooling Capacity table for System 6 on page 27). Net total cooling capacity must be interpolated as follows:

(24,700 - 22,800) x (1/5) + 22,800 = 23,180 Btuh

To determine the energy efficiency ratio (EER), system kW must be interpolated from the Cooling Capacity table for System 6 in the same manner:

(2.09 - 2.07) x (1/5) + 2.07 = 2.07 kW

Then calculate EER:

$$EER = \frac{\text{Net Cooling Capacity}}{\text{kW x 1000}}$$

$$\frac{23{,}180}{2.07 \times 1000} = 11.2 \text{ EER}$$

NOTE: The SEER (Seasonal Energy Efficiency Ratio) CANNOT be calculated for this system. SEERs can only be found as a direct result of testing at specified ARI conditions. See ARI Capacities table on page 4.

VI DETERMINE THE RECOMMENDED LIQUID AND VAPOR LINE SIZES.

Refer to Refrigerant Line Sizing section on page 42.

NOTE: With long-lines applications, it may be necessary to adjust cooling capacity. See Long-Lines Applications section on page 43 for more details.

GROSS COOLING CAPACITIES

SYSTEMS INDEX TABLE

FAN COIL TYPE	INDOOR SECTION	OUTDOOR SECTION	NET COOLING (Btuh)*	INDEX NO.
High Wall	619E009	538C009	8,500	1
	619E012	538C012	11,600	2
	619E018	538A018	17,300	3
	619E024	538A024	22,600	4
Ceiling Suspended	619C024†	538A018	18,000	5
		538A024	22,800	6
	619C036	538A030	30,000	7
		538A036	34,000	8
	619C048	538A048	47,000	9
	619C060	538A060	58,000	10
In-Ceiling Cassette	619F024	538A018	18,300	11
	619F036	538A024	24,000	12
		538A030	30,000	13
		538A036	33,000	14

*Rating at 80 F db, 67 F wb air entering indoor section and 95 F db air entering outdoor section.
†When used with the 538A018 unit (system index no. 5), the 619C024 unit must be field configured to an 018 size unit by changing the motor speed fan tap plug. Refer to installation instructions for more details.

GROSS COOLING CAPACITIES

SYSTEM 1* — HIGH WALL SYSTEM; 538C009 WITH 619E009

TEMP (F) AIR ENTERING CONDENSER (Edb)		AIR ENTERING EVAPORATOR — CFM/BF											
		184/0.08				200/0.09				215/0.10			
		Air Entering Evaporator — Ewb (F)											
		57	62	67	72	57	62	67	72	57	62	67	72
55	TCG	7.41	7.46	7.72	7.87	7.41	7.44	7.61	7.76	7.45	7.71	7.52	7.66
	SHG	7.10	5.75	4.78	3.88	7.18	5.79	4.74	3.85	7.30	6.09	4.70	3.82
	TC	7.33	7.38	7.65	7.80	7.33	7.36	7.53	7.68	7.37	7.63	7.43	7.57
	kW	0.597	0.597	0.608	0.613	0.598	0.598	0.605	0.611	0.601	0.611	0.603	0.609
	CMP	0.493	0.494	0.505	0.511	0.493	0.493	0.500	0.507	0.494	0.505	0.496	0.503
	LDB	43.5	50.5	55.5	60.2	46.1	52.7	57.7	62.0	47.9	53.3	59.5	63.4
	LWB	39.6	46.4	52.7	59.1	41.3	47.9	54.2	60.5	42.4	48.5	55.4	61.6
65	TCG	7.48	7.80	8.17	8.46	7.60	7.79	8.18	8.34	7.67	8.06	8.09	8.24
	SHG	7.29	6.14	5.10	4.13	7.52	6.20	5.15	4.10	7.65	6.53	5.12	4.07
	TC	7.40	7.73	8.10	8.38	7.53	7.71	8.10	8.26	7.59	7.97	8.00	8.16
	kW	0.649	0.661	0.677	0.690	0.656	0.662	0.679	0.686	0.660	0.677	0.677	0.683
	CMP	0.547	0.559	0.574	0.587	0.552	0.558	0.574	0.581	0.554	0.570	0.570	0.576
	LDB	42.5	48.5	53.9	58.9	44.4	50.8	55.8	60.8	46.4	51.3	57.6	62.3
	LWB	39.4	45.6	51.7	58.0	40.8	47.1	53.1	59.5	41.9	47.8	54.4	60.7
75	TCG	7.54	7.94	8.46	8.58	7.73	8.05	8.48	8.56	7.90	8.12	8.49	8.82
	SHG	7.48	6.37	5.34	4.18	7.73	6.57	5.41	4.20	7.90	6.73	5.47	4.34
	TC	7.47	7.87	8.38	8.50	7.65	7.97	8.40	8.48	7.81	8.04	8.40	8.73
	kW	0.715	0.728	0.749	0.753	0.724	0.734	0.752	0.754	0.733	0.738	0.754	0.770
	CMP	0.613	0.625	0.647	0.651	0.619	0.629	0.647	0.650	0.626	0.631	0.648	0.663
	LDB	41.5	47.3	52.7	58.7	43.5	49.0	54.5	60.3	45.3	50.5	56.1	61.1
	LWB	39.3	45.2	51.0	57.8	40.5	46.5	52.5	59.1	41.4	47.7	53.6	59.7
85	TCG	7.44	7.90	8.40	8.87	7.67	8.05	8.50	8.91	7.80	8.16	8.56	9.17
	SHG	7.44	6.45	5.36	4.31	7.67	6.70	5.50	4.37	7.80	6.93	5.61	4.53
	TC	7.37	7.83	8.33	8.79	7.59	7.97	8.42	8.83	7.72	8.07	8.48	9.08
	kW	0.790	0.801	0.816	0.837	0.803	0.810	0.822	0.841	0.801	0.817	0.826	0.859
	CMP	0.688	0.698	0.713	0.735	0.699	0.704	0.717	0.737	0.695	0.710	0.720	0.752
	LDB	41.7	46.9	52.5	58.0	43.7	48.4	54.1	59.5	45.7	49.6	55.4	60.3
	LWB	39.5	45.3	51.2	57.2	40.6	46.6	52.4	58.5	41.6	47.6	53.5	59.2
95	TCG	6.92	7.51	8.33	8.85	7.16	7.82	8.47	8.95	7.47	7.95	8.59	9.14
	SHG	6.92	6.29	5.38	4.32	7.16	6.64	5.57	4.41	7.47	6.90	5.73	4.55
	TC	6.84	7.44	8.26	8.78	7.08	7.74	8.39	8.87	7.38	7.86	8.50	9.05
	kW	0.860	0.878	0.899	0.917	0.873	0.884	0.907	0.924	0.880	0.894	0.915	0.939
	CMP	0.757	0.776	0.796	0.815	0.768	0.780	0.802	0.819	0.774	0.787	0.809	0.832
	LDB	44.4	47.7	52.4	57.9	46.2	48.7	53.8	59.3	47.2	49.7	54.9	60.2
	LWB	41.0	46.3	51.3	57.2	41.9	47.1	52.5	58.4	42.4	48.0	53.5	59.2
105	TCG	6.44	6.95	7.89	8.77	6.63	7.13	8.22	8.85	6.89	7.25	8.33	8.95
	SHG	6.44	6.02	5.21	4.30	6.63	6.32	5.48	4.39	6.89	6.57	5.66	4.49
	TC	6.37	6.87	7.82	8.69	6.55	7.05	8.14	8.77	6.81	7.16	8.25	8.86
	kW	0.934	0.947	0.986	1.01	0.948	0.956	0.992	1.01	0.957	0.964	1.00	1.02
	CMP	0.831	0.844	0.883	0.909	0.843	0.852	0.887	0.909	0.851	0.858	0.895	0.914
	LDB	46.9	49.1	53.3	58.1	48.7	50.2	54.2	59.4	49.7	51.2	55.2	60.4
	LWB	42.2	47.6	52.3	57.4	43.2	48.6	53.0	58.6	43.7	49.4	53.9	59.5
115	TCG	5.96	6.26	7.28	8.42	6.15	6.39	7.42	8.61	6.41	6.50	7.53	8.72
	SHG	5.96	5.71	4.94	4.16	6.15	5.98	5.15	4.31	6.41	6.22	5.33	4.42
	TC	5.89	6.19	7.21	8.34	6.07	6.31	7.34	8.53	6.33	6.41	7.44	8.64
	kW	1.02	1.02	1.06	1.10	1.03	1.03	1.07	1.11	1.04	1.04	1.08	1.12
	CMP	0.913	0.920	0.958	1.00	0.924	0.927	0.966	1.01	0.930	0.934	0.973	1.02
	LDB	49.4	50.7	54.7	58.7	51.0	51.8	55.8	59.8	51.9	52.7	56.7	60.7
	LWB	43.5	49.3	53.6	58.1	44.3	50.1	54.6	59.0	44.7	50.9	55.4	59.9
125	TCG	5.43	5.67	6.45	7.60	5.68	5.79	6.55	7.72	5.89	5.92	6.65	7.81
	SHG	5.43	5.43	4.60	3.86	5.68	5.69	4.79	3.98	5.89	5.91	4.97	4.09
	TC	5.36	5.59	6.37	7.53	5.60	5.71	6.47	7.64	5.81	5.83	6.56	7.73
	kW	1.11	1.11	1.15	1.19	1.12	1.12	1.16	1.20	1.13	1.13	1.16	1.21
	CMP	1.00	1.00	1.04	1.09	1.01	1.01	1.05	1.10	1.02	1.02	1.06	1.11
	LDB	52.2	52.2	56.5	60.3	53.3	53.2	57.5	61.4	54.2	54.1	58.3	62.2
	LWB	44.9	50.6	55.3	59.6	45.4	51.4	56.2	60.6	45.8	52.0	56.9	61.3

Rating condition.

Not recommended for long-term operation.

*Refer to Systems Index Table on page 21.

NOTES:
1. Direct interpolation is permissible. Do not extrapolate.
2. The SHG is based on 80 F edb temperature of air entering indoor coil.
   Below 80 F edb, subtract (corr factor x cfm) from SHG.
   Above 80 F edb, add (corr factor x cfm) to SHG.
   Correction Factor = 1.10 x (1 – BF) x (edb – 80).

LEGEND

BF — Bypass Factor
CMP — Compressor
Edb — Entering Dry Bulb
Ewb — Entering Wet Bulb
kW — Total Power
LDB — Leaving Dry Bulb
LWB — Leaving Wet Bulb
SHG — Gross Sensible Capacity (1000 Btuh)
TC — Total Net Cooling Capacity (1000 Btuh)
TCG — Gross Cooling Capacity (1000 Btuh)

GROSS COOLING CAPACITIES (cont)

SYSTEM 2* — HIGH WALL SYSTEM; 538C012 WITH 619E012

TEMP (F) AIR ENTERING CONDENSER (Edb)		AIR ENTERING EVAPORATOR — CFM/BF											
		245/0.12				280/0.14				302/0.15			
		Air Entering Evaporator — Ewb (F)											
		57	62	67	72	57	62	67	72	57	62	67	72
55	TCG	10.6	10.9	11.1	11.2	10.6	11.0	11.2	11.3	10.7	11.0	11.2	11.1
	SHG	9.99	8.37	6.81	5.53	10.2	8.55	6.94	5.58	10.4	8.61	6.98	5.54
	TC	10.5	10.8	10.9	11.1	10.5	10.9	11.0	11.1	10.6	10.9	11.0	11.0
	kW	0.742	0.750	0.752	0.756	0.747	0.756	0.759	0.761	0.752	0.758	0.761	0.760
	CMP	0.635	0.642	0.644	0.647	0.635	0.643	0.647	0.649	0.637	0.642	0.646	0.645
	LDB	42.8	48.8	54.8	59.6	46.6	52.2	57.5	62.0	48.5	54.1	59.1	63.5
	LWB	38.9	45.3	52.0	58.7	41.4	47.6	54.0	60.5	42.6	48.8	55.1	61.6
65	TCG	10.7	11.2	11.6	12.0	10.9	11.4	11.6	11.9	11.1	11.5	11.6	11.8
	SHG	10.3	8.67	7.21	5.84	10.8	9.01	7.30	5.84	11.1	9.21	7.35	5.81
	TC	10.6	11.0	11.5	11.9	10.8	11.2	11.5	11.8	11.0	11.3	11.5	11.6
	kW	0.826	0.832	0.844	0.853	0.833	0.842	0.848	0.855	0.842	0.847	0.851	0.853
	CMP	0.718	0.725	0.737	0.746	0.721	0.729	0.736	0.743	0.727	0.732	0.736	0.738
	LDB	41.5	47.7	53.2	58.4	44.9	50.7	56.3	61.1	46.5	52.2	57.9	62.6
	LWB	38.7	44.9	51.1	57.6	40.9	47.0	53.4	59.7	41.9	48.2	54.5	60.9
75	TCG	10.5	11.2	11.8	12.3	10.9	11.4	12.0	12.3	11.1	11.6	12.1	12.2
	SHG	10.3	8.85	7.38	5.95	10.9	9.27	7.65	6.01	11.1	9.55	7.78	6.03
	TC	10.4	11.1	11.7	12.2	10.8	11.3	11.9	12.2	11.0	11.5	12.0	12.1
	kW	0.911	0.924	0.938	0.950	0.923	0.933	0.948	0.954	0.931	0.941	0.954	0.955
	CMP	0.804	0.816	0.831	0.842	0.811	0.821	0.836	0.842	0.816	0.826	0.839	0.840
	LDB	41.6	47.1	52.6	58.0	44.5	49.8	55.2	60.6	46.4	51.2	56.6	62.0
	LWB	39.0	44.8	50.8	57.1	41.0	46.9	52.8	59.3	42.0	48.0	53.9	60.4
85	TCG	9.83	11.0	11.8	12.3	10.5	11.3	12.0	12.4	10.9	11.4	12.1	12.5
	SHG	9.83	8.85	7.44	5.98	10.5	9.36	7.73	6.10	10.9	9.65	7.92	6.16
	TC	9.72	10.9	11.7	12.2	10.4	11.1	11.9	12.3	10.8	11.3	12.0	12.3
	kW	1.00	1.02	1.04	1.05	1.02	1.03	1.05	1.06	1.03	1.04	1.05	1.06
	CMP	0.896	0.915	0.933	0.946	0.909	0.922	0.937	0.947	0.913	0.924	0.940	0.948
	LDB	43.4	47.1	52.4	57.9	45.8	49.6	54.9	60.3	47.0	50.9	56.2	61.6
	LWB	40.4	45.2	50.8	57.0	41.7	47.2	52.9	59.1	42.3	48.2	53.9	60.1
95	TCG	9.18	10.1	11.6	12.3	9.73	10.5	11.8	12.5	10.2	10.8	11.9	12.7
	SHG	9.18	8.38	7.39	5.96	9.73	9.03	7.75	6.17	10.2	9.42	7.94	6.28
	TC	9.07	9.95	11.5	12.2	9.61	10.4	11.7	12.4	10.0	10.6	11.6	12.5
	kW	1.10	1.12	1.15	1.17	1.12	1.13	1.16	1.18	1.13	1.14	1.17	1.19
	CMP	0.994	1.01	1.04	1.06	1.01	1.02	1.05	1.07	1.02	1.03	1.05	1.07
	LDB	45.8	48.8	52.6	57.9	48.3	50.6	54.9	60.1	49.4	51.6	56.1	61.2
	LWB	41.7	46.8	51.2	57.1	42.9	48.3	53.1	59.0	43.5	49.1	54.2	59.9
105	TCG	8.50	9.14	10.6	12.0	9.03	9.53	11.0	12.3	9.43	9.76	11.3	12.4
	SHG	8.50	7.95	6.95	5.87	9.03	8.57	7.42	6.09	9.43	8.95	7.70	6.22
	TC	8.39	9.02	10.5	11.9	8.90	9.40	10.9	12.1	9.30	9.62	11.1	12.3
	kW	1.21	1.22	1.26	1.29	1.23	1.24	1.28	1.30	1.24	1.25	1.28	1.31
	CMP	1.10	1.12	1.15	1.18	1.12	1.13	1.16	1.19	1.12	1.13	1.17	1.19
	LDB	48.4	50.5	54.2	58.3	50.6	52.1	55.9	60.3	51.6	53.1	56.9	61.4
	LWB	43.0	48.4	52.8	57.5	44.1	49.8	54.2	59.3	44.6	50.5	55.0	60.2
115	TCG	7.95	8.10	9.47	11.3	8.40	8.47	9.84	11.8	8.65	8.69	10.1	12.0
	SHG	7.95	7.47	6.47	5.56	8.40	8.08	6.93	5.90	8.65	8.44	7.21	6.09
	TC	7.84	7.99	9.36	11.2	8.27	8.34	9.72	11.6	8.51	8.55	9.92	11.9
	kW	1.33	1.34	1.37	1.41	1.35	1.35	1.39	1.43	1.36	1.36	1.40	1.44
	CMP	1.22	1.23	1.27	1.31	1.23	1.24	1.28	1.32	1.24	1.24	1.28	1.33
	LDB	50.4	52.3	56.0	59.4	52.7	53.8	57.5	60.9	54.0	54.6	58.4	61.8
	LWB	44.0	50.2	54.5	58.6	45.1	51.3	55.8	59.9	45.7	51.9	56.4	60.6
125	TCG	7.27	7.40	8.52	10.1	7.68	7.69	8.87	10.5	7.92	7.89	9.08	10.7
	SHG	7.27	7.14	6.08	5.11	7.68	7.67	6.54	5.42	7.92	7.89	6.82	5.60
	TC	7.16	7.29	8.41	9.97	7.55	7.56	8.75	10.3	7.78	7.75	8.94	10.5
	kW	1.46	1.46	1.50	1.54	1.48	1.47	1.51	1.56	1.49	1.49	1.52	1.57
	CMP	1.35	1.35	1.39	1.43	1.36	1.36	1.40	1.44	1.37	1.37	1.40	1.45
	LDB	53.0	53.5	57.5	61.2	55.1	55.1	58.8	62.5	56.2	56.3	59.6	63.3
	LWB	45.3	51.3	55.9	60.2	46.3	52.4	57.0	61.4	46.8	52.9	57.6	62.1

Rating condition.

Not recommended for long-term operation.

*Refer to Systems Index Table on page 21.

NOTES:
1. Direct interpolation is permissible. Do not extrapolate.
2. The SHG is based on 80 F edb temperature of air entering indoor coil.
   Below 80 F edb, subtract (corr factor x cfm) from SHG.
   Above 80 F edb, add (corr factor x cfm) to SHG.
   Correction Factor = 1.10 x (1 – BF) x (edb – 80).

LEGEND

BF — Bypass Factor
CMP — Compressor
Edb — Entering Dry Bulb
Ewb — Entering Wet Bulb
kW — Total Power
LDB — Leaving Dry Bulb
LWB — Leaving Wet Bulb
SHG — Gross Sensible Capacity (1000 Btuh)
TC — Total Net Cooling Capacity (1000 Btuh)
TCG — Gross Cooling Capacity (1000 Btuh)

GROSS COOLING CAPACITIES (cont)

SYSTEM 3* — HIGH WALL SYSTEM; 538A018 WITH 619E018

TEMP (F) AIR ENTERING CONDENSER (Edb)		AIR ENTERING EVAPORATOR — CFM/BF											
		360/0.12				414/0.13				480/0.15			
		Air Entering Evaporator — Ewb (F)											
		57	62	67	72	57	62	67	72	57	62	67	72
55	TCG	16.1	16.9	17.4	17.6	16.5	17.2	17.3	17.8	17.0	17.4	17.8	18.0
	SHG	15.2	13.0	10.7	8.63	16.0	13.3	10.8	8.76	16.8	13.9	11.3	8.91
	TC	16.0	16.8	17.3	17.5	16.4	17.1	17.2	17.6	16.8	17.2	17.7	17.8
	kW	1.01	1.02	1.02	1.03	1.02	1.03	1.03	1.03	1.03	1.04	1.04	1.04
	CMP	0.860	0.868	0.873	0.874	0.864	0.871	0.871	0.878	0.871	0.873	0.879	0.881
	LDB	41.4	47.1	52.9	58.2	44.7	50.3	56.3	60.8	48.0	53.7	58.7	63.2
	LWB	38.1	44.2	50.7	57.5	40.5	46.6	53.3	59.6	42.6	48.9	55.0	61.4
65	TCG	15.8	17.0	17.7	18.2	16.3	17.3	17.8	18.4	16.8	17.7	18.5	18.6
	SHG	15.2	13.2	10.9	8.87	16.1	13.9	11.2	8.99	16.8	14.6	11.8	9.18
	TC	15.7	16.8	17.5	18.1	16.2	17.2	17.6	18.2	16.6	17.6	18.3	18.4
	kW	1.11	1.12	1.13	1.14	1.12	1.13	1.14	1.15	1.13	1.15	1.16	1.16
	CMP	0.958	0.971	0.979	0.989	0.964	0.976	0.980	0.990	0.968	0.982	0.993	0.993
	LDB	41.3	46.5	52.3	57.6	44.4	49.5	55.5	60.3	48.0	52.3	57.6	62.7
	LWB	38.6	44.1	50.5	56.9	40.7	46.5	52.9	59.1	42.8	48.6	54.6	61.0
75	TCG	15.1	16.5	17.6	18.6	15.8	17.0	18.1	18.5	16.6	17.5	18.4	18.9
	SHG	14.9	13.1	11.0	9.01	15.8	13.9	11.6	9.08	16.6	14.7	12.0	9.37
	TC	15.0	16.4	17.5	18.5	15.7	16.9	18.0	18.4	16.4	17.3	18.2	18.7
	kW	1.20	1.22	1.24	1.26	1.22	1.24	1.25	1.26	1.24	1.25	1.27	1.28
	CMP	1.05	1.07	1.09	1.11	1.06	1.08	1.10	1.10	1.07	1.09	1.10	1.11
	LDB	42.2	46.8	52.1	57.3	45.1	49.4	54.6	60.1	48.5	52.0	57.2	62.3
	LWB	39.4	44.7	50.5	56.6	41.3	46.8	52.6	59.0	43.0	48.8	54.6	60.8
85	TCG	14.4	15.9	17.3	18.6	15.2	16.4	17.7	18.8	16.0	16.9	18.1	18.8
	SHG	14.4	12.9	10.9	8.98	15.2	13.7	11.5	9.24	16.0	14.7	12.0	9.39
	TC	14.3	15.7	17.2	18.4	15.0	16.3	17.6	18.7	15.9	16.7	17.9	18.7
	kW	1.28	1.32	1.35	1.38	1.31	1.34	1.36	1.39	1.34	1.35	1.38	1.39
	CMP	1.13	1.17	1.20	1.23	1.15	1.18	1.21	1.23	1.18	1.19	1.21	1.23
	LDB	43.5	47.4	52.3	57.4	46.5	49.8	54.7	59.8	49.5	52.2	57.2	62.3
	LWB	40.4	45.5	50.9	56.6	42.0	47.4	52.9	58.7	43.6	49.3	54.9	60.8
95	TCG	13.7	15.0	16.6	17.9	14.5	15.5	17.1	18.3	15.3	16.1	17.5	18.5
	SHG	13.7	12.4	10.7	8.71	14.5	13.4	11.3	9.04	15.3	14.4	11.9	9.34
	TC	13.6	14.9	16.4	17.8	14.4	15.4	16.9	18.1	15.1	15.9	17.3	18.4
	kW	1.37	1.41	1.45	1.48	1.40	1.43	1.47	1.50	1.43	1.45	1.49	1.51
	CMP	1.22	1.26	1.30	1.33	1.24	1.27	1.31	1.34	1.27	1.29	1.32	1.35
	LDB	45.2	48.5	53.1	58.0	48.1	50.6	55.3	60.2	50.9	52.7	57.4	62.4
	LWB	41.4	46.5	51.7	57.2	42.8	48.3	53.5	59.2	44.3	50.0	55.3	61.0
105	TCG	13.0	14.1	15.7	17.3	13.8	14.6	16.2	17.7	14.6	15.1	16.7	17.9
	SHG	13.0	12.0	10.3	8.47	13.8	12.9	11.0	8.82	14.6	13.9	11.7	9.15
	TC	12.9	14.0	15.6	17.2	13.6	14.4	16.1	17.5	14.4	14.9	16.5	17.7
	kW	1.45	1.49	1.55	1.60	1.48	1.51	1.57	1.61	1.52	1.54	1.59	1.62
	CMP	1.30	1.34	1.40	1.45	1.33	1.35	1.41	1.46	1.35	1.37	1.43	1.46
	LDB	47.0	49.6	54.0	58.7	49.6	51.6	55.9	60.7	52.4	53.6	57.9	62.8
	LWB	42.3	47.6	52.6	57.8	43.6	49.3	54.3	59.7	45.0	50.8	55.9	61.4
115	TCG	12.4	13.2	14.7	16.4	13.1	13.6	15.2	16.8	13.8	14.1	15.7	17.1
	SHG	12.4	11.6	9.86	8.12	13.1	12.4	10.5	8.52	13.8	13.4	11.3	8.93
	TC	12.2	13.1	14.6	16.3	12.9	13.5	15.1	16.7	13.6	13.9	15.5	17.0
	kW	1.53	1.56	1.63	1.70	1.57	1.59	1.66	1.72	1.60	1.62	1.68	1.73
	CMP	1.38	1.41	1.48	1.55	1.41	1.43	1.50	1.56	1.44	1.45	1.52	1.57
	LDB	48.7	50.8	55.1	59.6	51.2	52.6	56.9	61.4	53.8	54.6	58.6	63.2
	LWB	43.1	48.7	53.6	58.7	44.4	50.2	55.2	60.3	45.7	51.6	56.7	61.9
125	TCG	11.6	12.2	13.7	15.3	12.3	12.7	14.2	15.8	13.0	13.1	14.6	16.2
	SHG	11.6	11.1	9.44	7.70	12.3	12.0	10.1	8.14	13.0	12.9	10.9	8.61
	TC	11.4	12.1	13.6	15.2	12.1	12.5	14.0	15.6	12.8	12.9	14.4	16.0
	kW	1.61	1.64	1.71	1.79	1.65	1.66	1.73	1.81	1.68	1.69	1.76	1.84
	CMP	1.46	1.48	1.56	1.64	1.49	1.50	1.58	1.66	1.52	1.53	1.60	1.67
	LDB	50.7	52.0	56.2	60.6	53.0	53.7	57.8	62.2	55.3	55.6	59.5	63.8
	LWB	44.1	49.8	54.7	59.7	45.3	51.1	56.1	61.2	46.4	52.4	57.5	62.6

Rating condition.

Not recommended for long-term operation.

*Refer to Systems Index Table on page 21.

NOTES:
1. Direct interpolation is permissible. Do not extrapolate.
2. The SHG is based on 80 F edb temperature of air entering indoor coil.
   Below 80 F edb, subtract (corr factor x cfm) from SHG.
   Above 80 F edb, add (corr factor x cfm) to SHG.
   Correction Factor = 1.10 x (1 – BF) x (edb – 80).

LEGEND

BF — Bypass Factor
CMP — Compressor
Edb — Entering Dry Bulb
Ewb — Entering Wet Bulb
kW — Total Power
LDB — Leaving Dry Bulb
LWB — Leaving Wet Bulb
SHG — Gross Sensible Capacity (1000 Btuh)
TC — Total Net Cooling Capacity (1000 Btuh)
TCG — Gross Cooling Capacity (1000 Btuh)

GROSS COOLING CAPACITIES (cont)

SYSTEM 4* — HIGH WALL SYSTEM; 538A024 WITH 619E024

TEMP (F) AIR ENTERING CONDENSER (Edb)		AIR ENTERING EVAPORATOR — CFM/BF											
		456/0.04				502/0.04				550/0.05			
		Air Entering Evaporator — Ewb (F)											
		57	62	67	72	57	62	67	72	57	62	67	72
55	TCG	20.9	22.2	23.1	23.6	21.4	22.6	23.5	23.9	21.8	22.4	23.4	23.7
	SHG	20.3	17.6	14.5	11.5	21.2	18.3	15.0	11.7	21.8	18.6	15.1	11.7
	TC	20.7	22.0	22.9	23.4	21.1	22.4	23.3	23.6	21.5	22.2	23.2	23.5
	kW	1.34	1.34	1.35	1.35	1.34	1.35	1.36	1.36	1.35	1.35	1.36	1.36
	CMP	1.16	1.16	1.17	1.17	1.16	1.17	1.17	1.17	1.16	1.16	1.17	1.17
	LDB	39.0	44.5	50.9	57.1	41.3	46.5	52.7	58.8	43.7	49.1	54.8	60.6
	LWB	37.5	43.3	49.7	56.4	39.1	45.0	51.2	57.9	40.6	46.8	52.9	59.4
65	TCG	20.4	22.1	23.4	24.1	21.0	22.5	23.7	24.5	21.6	22.9	23.8	24.8
	SHG	20.1	17.7	14.8	11.7	21.0	18.5	15.2	12.0	21.6	19.3	15.6	12.2
	TC	20.2	21.9	23.2	23.9	20.8	22.3	23.5	24.2	21.4	22.6	23.6	24.5
	kW	1.48	1.49	1.50	1.50	1.49	1.50	1.50	1.51	1.50	1.51	1.51	1.52
	CMP	1.30	1.31	1.32	1.32	1.30	1.31	1.32	1.32	1.31	1.31	1.32	1.33
	LDB	39.4	44.3	50.3	56.6	41.5	46.1	52.3	58.3	43.9	47.9	54.1	59.8
	LWB	38.0	43.4	49.4	56.0	39.4	45.0	51.1	57.5	40.7	46.5	52.6	58.8
75	TCG	19.8	21.5	23.2	24.7	20.5	22.0	23.5	24.6	21.2	22.4	23.8	24.9
	SHG	19.7	17.5	14.8	12.0	20.5	18.4	15.2	12.1	21.2	19.2	15.8	12.4
	TC	19.6	21.3	23.0	24.5	20.3	21.8	23.2	24.4	21.0	22.2	23.6	24.7
	kW	1.64	1.66	1.66	1.68	1.66	1.67	1.67	1.68	1.67	1.67	1.68	1.69
	CMP	1.46	1.48	1.48	1.50	1.47	1.48	1.48	1.49	1.47	1.48	1.49	1.50
	LDB	40.2	44.8	50.3	56.1	42.4	46.4	52.3	58.1	44.6	48.0	53.8	59.5
	LWB	38.7	44.0	49.6	55.6	39.9	45.5	51.3	57.4	41.0	46.8	52.6	58.7
85	TCG	19.2	20.8	22.7	24.3	19.9	21.3	23.1	24.4	20.6	21.7	23.5	24.8
	SHG	19.2	17.1	14.6	11.8	19.9	18.1	15.1	12.0	20.6	19.0	15.7	12.4
	TC	19.0	20.6	22.5	24.1	19.7	21.1	22.9	24.2	20.4	21.5	23.2	24.5
	kW	1.82	1.84	1.85	1.87	1.84	1.85	1.86	1.87	1.85	1.87	1.87	1.88
	CMP	1.65	1.66	1.67	1.69	1.65	1.67	1.68	1.69	1.66	1.67	1.68	1.69
	LDB	41.3	45.5	50.7	56.4	43.5	47.0	52.4	58.2	45.6	48.4	53.8	59.5
	LWB	39.3	44.7	50.1	55.9	40.5	46.1	51.6	57.5	41.5	47.4	52.9	58.8
95	TCG	18.6	20.0	22.0	23.9	19.4	20.5	22.4	24.2	20.0	20.9	22.8	24.4
	SHG	18.6	16.8	14.3	11.7	19.4	17.7	14.9	12.0	20.0	18.6	15.6	12.3
	TC	18.4	19.8	21.8	23.7	19.1	20.3	22.2	24.0	19.8	20.7	22.6	24.1
	kW	2.03	2.05	2.07	2.09	2.05	2.06	2.08	2.10	2.06	2.07	2.09	2.10
	CMP	1.85	1.87	1.89	1.91	1.86	1.88	1.89	1.91	1.87	1.88	1.90	1.91
	LDB	42.5	46.3	51.3	56.7	44.6	47.7	52.8	58.2	46.6	49.1	54.1	59.7
	LWB	39.9	45.5	50.7	56.2	41.1	46.8	52.1	57.7	42.1	48.0	53.3	59.0
105	TCG	18.1	19.3	21.2	23.1	18.8	19.7	21.7	23.5	19.4	20.1	22.1	23.7
	SHG	18.1	16.4	14.0	11.4	18.8	17.3	14.6	11.7	19.4	18.2	15.3	12.0
	TC	17.9	19.1	21.0	22.9	18.5	19.5	21.5	23.3	19.1	19.9	21.9	23.5
	kW	2.26	2.28	2.31	2.33	2.28	2.30	2.33	2.34	2.30	2.31	2.34	2.35
	CMP	2.08	2.10	2.13	2.15	2.10	2.11	2.14	2.16	2.11	2.12	2.15	2.16
	LDB	43.6	47.0	51.9	57.3	45.7	48.4	53.3	58.7	47.7	49.7	54.6	60.1
	LWB	40.5	46.2	51.3	56.8	41.6	47.5	52.6	58.2	42.6	48.6	53.8	59.4
115	TCG	17.5	18.5	20.4	22.4	18.1	19.0	20.9	22.7	18.7	19.3	21.2	23.0
	SHG	17.5	16.0	13.6	11.1	18.1	16.9	14.3	11.4	18.7	17.8	14.9	11.8
	TC	17.3	18.3	20.2	22.2	17.9	18.7	20.6	22.5	18.5	19.1	21.0	22.8
	kW	2.53	2.55	2.59	2.61	2.55	2.56	2.60	2.62	2.57	2.58	2.62	2.63
	CMP	2.35	2.37	2.41	2.43	2.36	2.38	2.42	2.44	2.38	2.39	2.43	2.44
	LDB	44.8	47.7	52.7	57.8	46.8	49.1	54.0	59.2	48.8	50.4	55.2	60.5
	LWB	41.2	46.9	52.0	57.4	42.2	48.1	53.3	58.7	43.2	49.2	54.4	59.9
125	TCG	16.9	17.8	19.6	21.6	17.5	18.2	20.0	21.9	18.1	18.5	20.4	22.2
	SHG	16.9	15.7	13.3	10.8	17.5	16.5	13.9	11.2	18.1	17.4	14.6	11.5
	TC	16.7	17.6	19.4	21.4	17.3	17.9	19.8	21.7	17.9	18.3	20.1	22.0
	kW	2.83	2.85	2.90	2.93	2.85	2.87	2.91	2.94	2.87	2.88	2.93	2.95
	CMP	2.65	2.67	2.72	2.75	2.67	2.68	2.73	2.76	2.68	2.69	2.74	2.76
	LDB	46.0	48.5	53.4	58.5	48.0	49.8	54.7	59.8	49.8	51.0	55.8	61.0
	LWB	41.8	47.6	52.8	58.0	42.8	48.8	53.9	59.3	43.7	49.8	55.0	60.4

Rating condition.

Not recommended for long-term operation.

*Refer to Systems Index Table on page 21.

NOTES:
1. Direct interpolation is permissible. Do not extrapolate.
2. The SHG is based on 80 F edb temperature of air entering indoor coil.
   Below 80 F edb, subtract (corr factor x cfm) from SHG.
   Above 80 F edb, add (corr factor x cfm) to SHG.
   Correction Factor = 1.10 x (1 – BF) x (edb – 80).

LEGEND

BF — Bypass Factor
CMP — Compressor
Edb — Entering Dry Bulb
Ewb — Entering Wet Bulb
kW — Total Power
LDB — Leaving Dry Bulb
LWB — Leaving Wet Bulb
SHG — Gross Sensible Capacity (1000 Btuh)
TC — Total Net Cooling Capacity (1000 Btuh)
TCG — Gross Cooling Capacity (1000 Btuh)

GROSS COOLING CAPACITIES (cont)

SYSTEM 5* — CEILING-SUSPENDED SYSTEM; 538A018 WITH 619C024†

TEMP (F) AIR ENTERING CONDENSER (Edb)		AIR ENTERING EVAPORATOR — CFM/BF											
		320/0.02				400/0.03				500/0.03			
		Air Entering Evaporator — Ewb (F)											
		57	62	67	72	57	62	67	72	57	62	67	72
55	TCG	21.5	23.6	25.6	27.3	23.2	25.2	27.0	28.1	24.6	26.1	27.6	28.4
	SHG	20.1	18.0	15.6	13.0	22.7	20.0	16.9	13.6	24.6	21.7	17.8	13.9
	TC	21.1	23.3	25.3	27.0	22.7	24.7	26.5	27.7	24.1	25.6	27.1	27.9
	kW	1.29	1.31	1.32	1.34	1.32	1.34	1.36	1.37	1.36	1.37	1.38	1.39
	CMP	1.04	1.05	1.07	1.08	1.05	1.06	1.08	1.09	1.06	1.07	1.08	1.09
	LDB	34.4	39.4	44.9	50.9	38.9	43.9	49.7	55.8	43.0	47.4	53.4	59.4
	LWB	33.7	38.7	44.3	50.5	37.6	42.9	48.7	55.1	40.2	46.0	51.9	58.2
65	TCG	19.4	21.4	23.4	25.3	21.0	22.8	24.7	26.2	22.4	23.8	25.5	26.8
	SHG	18.5	16.5	14.3	12.0	20.8	18.5	15.7	12.7	22.4	20.2	16.8	13.2
	TC	19.1	21.1	23.1	25.0	20.6	22.4	24.3	25.8	21.9	23.3	25.0	26.3
	kW	1.34	1.37	1.40	1.42	1.38	1.41	1.43	1.45	1.43	1.44	1.46	1.48
	CMP	1.10	1.12	1.15	1.17	1.12	1.14	1.16	1.18	1.14	1.15	1.17	1.19
	LDB	35.9	40.6	45.9	51.5	40.4	44.8	50.2	56.1	44.4	47.9	53.5	59.3
	LWB	35.1	40.0	45.3	51.0	38.6	43.9	49.3	55.4	41.0	46.7	52.3	58.3
75	TCG	17.3	19.1	21.2	23.3	18.8	20.5	22.5	24.3	20.2	21.4	23.5	25.1
	SHG	16.8	15.0	13.1	11.1	18.8	17.0	14.5	11.8	20.2	18.8	15.8	12.5
	TC	17.0	18.8	20.9	23.0	18.4	20.1	22.2	23.9	19.8	21.0	23.0	24.7
	kW	1.40	1.43	1.47	1.50	1.44	1.48	1.51	1.53	1.49	1.52	1.54	1.57
	CMP	1.16	1.19	1.23	1.26	1.19	1.22	1.25	1.27	1.21	1.24	1.26	1.29
	LDB	37.3	41.9	46.8	52.1	41.9	45.7	50.8	56.4	45.9	48.4	53.6	59.2
	LWB	36.4	41.3	46.3	51.6	39.6	44.9	50.0	55.7	41.7	47.4	52.7	58.4
85	TCG	15.4	17.0	18.9	20.9	16.8	18.1	20.1	22.0	18.1	19.0	20.9	22.9
	SHG	15.2	13.6	11.8	9.99	16.8	15.4	13.2	10.8	18.1	17.0	14.4	11.5
	TC	15.1	16.7	18.6	20.6	16.5	17.8	19.7	21.7	17.7	18.5	20.5	22.4
	kW	1.43	1.47	1.52	1.56	1.49	1.52	1.57	1.60	1.54	1.56	1.60	1.64
	CMP	1.20	1.24	1.29	1.33	1.24	1.27	1.32	1.35	1.27	1.29	1.33	1.37
	LDB	38.8	43.3	48.2	53.2	43.7	46.8	51.8	57.0	47.5	49.5	54.4	59.6
	LWB	37.8	42.6	47.6	52.7	40.6	46.0	51.1	56.4	42.5	48.4	53.5	58.8
95	TCG	13.6	15.0	16.7	18.5	15.0	15.9	17.7	19.6	16.1	16.6	18.4	20.3
	SHG	13.6	12.2	10.6	8.90	15.0	13.9	11.8	9.70	16.1	15.4	13.0	10.4
	TC	13.3	14.7	16.4	18.2	14.6	15.6	17.3	19.3	15.7	16.2	18.0	19.9
	kW	1.46	1.50	1.55	1.61	1.52	1.55	1.60	1.65	1.57	1.59	1.64	1.69
	CMP	1.24	1.28	1.33	1.39	1.28	1.31	1.36	1.41	1.32	1.33	1.38	1.43
	LDB	40.7	44.7	49.5	54.5	45.4	48.0	52.9	57.9	49.1	50.5	55.3	60.3
	LWB	39.0	44.0	48.9	54.0	41.5	47.2	52.2	57.3	43.3	49.3	54.4	59.6
105	TCG	12.0	13.1	14.6	16.2	13.2	13.9	15.4	17.1	14.2	14.5	16.0	17.7
	SHG	12.0	11.0	9.44	7.87	13.2	12.5	10.6	8.60	14.2	13.8	11.6	9.27
	TC	11.8	12.8	14.3	16.0	12.9	13.6	15.1	16.8	13.8	14.1	15.6	17.4
	kW	1.48	1.52	1.57	1.63	1.54	1.57	1.62	1.68	1.60	1.61	1.66	1.72
	CMP	1.27	1.31	1.36	1.42	1.31	1.34	1.39	1.45	1.35	1.36	1.42	1.48
	LDB	42.7	46.0	50.9	55.8	47.3	49.2	54.0	59.0	50.8	51.6	56.2	61.2
	LWB	40.0	45.3	50.2	55.3	42.4	48.3	53.3	58.4	44.2	50.3	55.4	60.5
115	TCG	10.5	11.3	12.6	14.0	11.6	12.0	13.3	14.8	12.4	12.5	13.8	15.3
	SHG	10.5	9.75	8.35	6.91	11.6	11.1	9.38	7.56	12.4	12.3	10.3	8.18
	TC	10.3	11.0	12.4	13.8	11.3	11.7	13.0	14.5	12.1	12.1	13.4	15.0
	kW	1.49	1.52	1.58	1.65	1.55	1.57	1.63	1.70	1.61	1.61	1.67	1.74
	CMP	1.28	1.32	1.38	1.45	1.34	1.35	1.41	1.48	1.37	1.38	1.44	1.50
	LDB	44.7	47.4	52.2	57.1	49.1	50.3	55.1	60.1	52.5	52.7	57.2	62.1
	LWB	41.1	46.6	51.5	56.6	43.3	49.3	54.3	59.4	45.0	51.2	56.3	61.4
125	TCG	9.05	9.56	10.8	12.0	9.99	10.2	11.3	12.6	10.7	10.7	11.7	13.1
	SHG	9.05	8.58	7.33	6.01	9.99	9.80	8.25	6.60	10.7	10.7	9.14	7.16
	TC	8.84	9.35	10.5	11.8	9.72	9.90	11.0	12.4	10.4	10.4	11.4	12.7
	kW	1.49	1.51	1.58	1.65	1.55	1.56	1.63	1.70	1.61	1.61	1.67	1.73
	CMP	1.30	1.32	1.39	1.46	1.35	1.36	1.42	1.49	1.39	1.39	1.44	1.51
	LDB	47.1	48.8	53.5	58.4	51.0	51.6	56.2	61.1	54.2	54.2	58.1	63.0
	LWB	42.3	48.0	52.8	57.8	44.3	50.4	55.4	60.4	45.8	52.0	57.2	62.3

Rating condition.

Not recommended for long-term operation.

LEGEND

BF — Bypass Factor
CMP — Compressor
Edb — Entering Dry Bulb
Ewb — Entering Wet Bulb
kW — Total Power
LDB — Leaving Dry Bulb
LWB — Leaving Wet Bulb
SHG — Gross Sensible Capacity (1000 Btuh)
TC — Total Net Cooling Capacity (1000 Btuh)
TCG — Gross Cooling Capacity (1000 Btuh)

*Refer to Systems Index Table on page 21.

†The 619C024 unit must be field configured to an 018 size unit by changing the motor speed fan tap plug. Refer to Installation Instructions for more details.

NOTES:

1. Direct interpolation is permissible. Do not extrapolate.
2. The SHG is based on 80 F edb temperature of air entering indoor coil.
   Below 80 F edb, subtract (corr factor x cfm) from SHG.
   Above 80 F edb, add (corr factor x cfm) to SHG.
   Correction Factor = 1.10 x (1 – BF) x (edb – 80).

GROSS COOLING CAPACITIES (cont)

SYSTEM 6* — CEILING-SUSPENDED SYSTEM; 538A024 WITH 619C024

TEMP (F) AIR ENTERING CONDENSER (Edb)		AIR ENTERING EVAPORATOR — CFM/BF											
		400/0.03				500/0.03				600/0.04			
		Air Entering Evaporator — Ewb (F)											
		57	62	67	72	57	62	67	72	57	62	67	72
55	TCG	22.7	24.2	25.8	26.6	23.7	25.1	26.2	26.6	24.6	25.4	26.1	27.4
	SHG	21.3	18.5	15.8	12.7	23.1	19.8	16.4	12.9	24.5	20.6	16.7	13.4
	TC	22.3	23.8	25.5	26.2	23.3	24.6	25.7	26.1	24.1	24.8	25.6	26.8
	kW	1.41	1.42	1.44	1.45	1.44	1.45	1.47	1.47	1.47	1.47	1.48	1.50
	CMP	1.15	1.15	1.17	1.18	1.15	1.16	1.18	1.18	1.16	1.17	1.17	1.19
	LDB	35.5	41.5	47.2	53.7	39.8	45.7	51.8	57.9	42.9	48.9	55.0	60.1
	LWB	34.4	40.3	46.3	53.2	37.9	43.9	50.2	56.9	40.1	46.4	52.7	58.7
65	TCG	21.5	23.5	25.3	26.3	22.8	24.5	26.2	27.2	23.7	25.2	26.6	27.1
	SHG	20.4	18.2	15.5	12.6	22.5	19.6	16.5	13.2	23.7	20.9	17.2	13.3
	TC	21.1	23.2	24.9	25.9	22.3	24.0	25.8	26.8	23.2	24.7	26.1	26.6
	kW	1.53	1.54	1.56	1.57	1.56	1.57	1.59	1.61	1.58	1.60	1.62	1.62
	CMP	1.26	1.28	1.30	1.30	1.28	1.28	1.31	1.32	1.28	1.29	1.31	1.32
	LDB	36.1	41.0	46.8	53.3	39.8	45.0	50.6	56.8	43.1	47.5	53.4	59.6
	LWB	35.1	40.2	46.1	52.8	38.2	43.8	49.5	55.9	40.3	46.0	51.8	58.4
75	TCG	20.2	22.2	24.1	25.7	21.5	23.2	25.1	26.6	22.5	23.9	25.7	26.6
	SHG	19.4	17.3	14.9	12.3	21.3	18.8	16.0	12.9	22.5	20.2	16.8	13.1
	TC	19.9	21.8	23.8	25.3	21.0	22.8	24.7	26.2	22.0	23.4	25.2	26.1
	kW	1.65	1.67	1.70	1.72	1.68	1.70	1.73	1.75	1.71	1.74	1.76	1.77
	CMP	1.39	1.41	1.44	1.46	1.40	1.43	1.45	1.47	1.42	1.44	1.46	1.47
	LDB	37.0	41.8	47.2	53.1	40.7	45.3	50.8	56.6	43.9	47.7	53.3	59.2
	LWB	35.9	41.0	46.5	52.6	38.8	44.3	49.8	55.8	40.7	46.4	52.0	58.2
85	TCG	18.9	20.8	23.0	25.1	20.1	21.9	24.0	25.9	21.3	22.7	24.7	26.2
	SHG	18.4	16.4	14.3	11.9	20.1	18.1	15.4	12.6	21.3	19.4	16.3	12.9
	TC	18.6	20.5	22.6	24.7	19.7	21.5	23.6	25.5	20.8	22.2	24.2	25.7
	kW	1.76	1.80	1.84	1.87	1.80	1.84	1.87	1.90	1.84	1.87	1.89	1.92
	CMP	1.51	1.54	1.58	1.62	1.53	1.57	1.60	1.63	1.55	1.58	1.60	1.63
	LDB	37.9	42.5	47.6	53.0	41.7	45.7	50.9	56.4	44.8	47.8	53.1	58.9
	LWB	36.8	41.8	46.9	52.4	39.5	44.8	50.0	55.7	41.1	46.8	52.1	58.0
95	TCG	17.7	19.5	21.5	23.6	18.9	20.5	22.6	24.6	20.0	21.2	23.3	25.2
	SHG	17.4	15.5	13.5	11.3	18.9	17.1	14.6	12.0	20.0	18.4	15.6	12.5
	TC	17.4	19.1	21.2	23.3	18.5	20.1	22.2	24.2	19.5	20.7	22.8	24.7
	kW	1.90	1.94	1.99	2.03	1.95	1.98	2.03	2.07	1.99	2.01	2.07	2.09
	CMP	1.66	1.69	1.74	1.78	1.68	1.71	1.77	1.80	1.70	1.73	1.78	1.81
	LDB	38.8	43.4	48.4	53.6	42.8	46.4	51.4	56.7	45.8	48.5	53.4	58.9
	LWB	37.6	42.6	47.7	53.0	40.1	45.5	50.6	56.1	41.7	47.4	52.6	58.1
105	TCG	16.5	18.2	20.1	22.1	17.7	19.1	21.0	23.2	18.7	19.7	21.7	23.8
	SHG	16.5	14.7	12.7	10.6	17.7	16.2	13.8	11.4	18.7	17.5	14.8	11.9
	TC	16.2	17.8	19.7	21.8	17.4	18.7	20.6	22.8	18.3	19.3	21.2	23.3
	kW	2.06	2.10	2.15	2.21	2.11	2.14	2.20	2.26	2.15	2.17	2.23	2.29
	CMP	1.82	1.86	1.91	1.97	1.85	1.88	1.93	2.00	1.87	1.90	1.95	2.01
	LDB	39.8	44.2	49.2	54.4	44.0	47.2	52.1	57.2	46.9	49.2	54.1	59.2
	LWB	38.4	43.5	48.6	53.8	40.7	46.2	51.3	56.6	42.2	48.0	53.2	58.5
115	TCG	15.4	16.9	18.7	20.6	16.6	17.7	19.5	21.5	17.5	18.3	20.1	22.1
	SHG	15.4	13.8	11.9	9.94	16.6	15.3	13.0	10.6	17.5	16.5	13.9	11.2
	TC	15.1	16.6	18.4	20.3	16.3	17.3	19.2	21.2	17.1	17.8	19.7	21.7
	kW	2.24	2.28	2.34	2.40	2.30	2.33	2.38	2.45	2.34	2.36	2.42	2.50
	CMP	2.01	2.04	2.10	2.16	2.04	2.07	2.12	2.20	2.06	2.08	2.14	2.22
	LDB	41.1	45.1	50.1	55.2	45.1	47.9	52.8	57.9	48.0	49.8	54.7	59.8
	LWB	39.2	44.3	49.4	54.6	41.3	46.9	52.0	57.3	42.8	48.7	53.8	59.0
125	TCG	14.4	15.6	17.3	19.1	15.5	16.4	18.1	20.0	16.3	16.9	18.6	20.5
	SHG	14.4	13.0	11.2	9.28	15.5	14.4	12.2	9.95	16.3	15.6	13.1	10.5
	TC	14.1	15.3	17.0	18.8	15.1	16.0	17.8	19.6	15.9	16.5	18.2	20.1
	kW	2.44	2.48	2.54	2.61	2.50	2.53	2.58	2.66	2.54	2.56	2.62	2.70
	CMP	2.21	2.25	2.31	2.37	2.24	2.27	2.33	2.41	2.27	2.29	2.35	2.44
	LDB	42.3	45.9	50.9	56.0	46.3	48.6	53.5	58.6	49.1	50.5	55.3	60.4
	LWB	39.9	45.1	50.2	55.4	41.9	47.6	52.7	57.9	43.3	49.3	54.4	59.6

Rating condition.

Not recommended for long-term operation.

*Refer to Systems Index Table on page 21.

NOTES:
1. Direct interpolation is permissible. Do not extrapolate.
2. The SHG is based on 80 F edb temperature of air entering indoor coil.
   Below 80 F edb, subtract (corr factor x cfm) from SHG.
   Above 80 F edb, add (corr factor x cfm) to SHG.
   Correction Factor = 1.10 x (1 – BF) x (edb – 80).

LEGEND

BF — Bypass Factor
CMP — Compressor
Edb — Entering Dry Bulb
Ewb — Entering Wet Bulb
kW — Total Power
LDB — Leaving Dry Bulb
LWB — Leaving Wet Bulb
SHG — Gross Sensible Capacity (1000 Btuh)
TC — Total Net Cooling Capacity (1000 Btuh)
TCG — Gross Cooling Capacity (1000 Btuh)

GROSS COOLING CAPACITIES (cont)

SYSTEM 7* — CEILING-SUSPENDED SYSTEM; 538A030 WITH 619C036

TEMP (F) AIR ENTERING CONDENSER (Edb)		AIR ENTERING EVAPORATOR — CFM/BF											
		640/0.02				740/0.02				840/0.03			
		Air Entering Evaporator — Ewb (F)											
		57	62	67	72	57	62	67	72	57	62	67	72
55	TCG	30.3	32.5	34.3	35.5	31.7	33.3	34.8	35.7	33.0	33.8	35.0	35.9
	SHG	30.3	26.5	21.9	17.3	31.7	28.2	22.9	17.7	33.0	29.8	23.7	18.1
	TC	29.9	32.0	33.8	35.0	31.1	32.7	34.2	35.2	32.3	33.1	34.4	35.3
	kW	1.94	1.96	1.98	2.00	1.97	1.99	2.01	2.02	2.01	2.02	2.04	2.05
	CMP	1.60	1.62	1.65	1.66	1.61	1.63	1.65	1.67	1.63	1.64	1.66	1.67
	LDB	40.0	45.1	51.2	57.5	43.9	47.8	54.0	60.1	46.9	50.2	56.3	62.1
	LWB	38.5	44.2	50.2	56.7	40.7	46.6	52.6	59.0	42.2	48.5	54.5	60.7
65	TCG	29.0	31.3	33.7	35.4	30.6	32.3	34.6	35.8	31.8	32.8	34.6	36.0
	SHG	29.0	25.8	21.7	17.3	30.6	27.8	23.0	17.8	31.8	29.4	23.8	18.3
	TC	28.5	30.8	33.3	35.0	30.1	31.7	34.0	35.2	31.2	32.2	34.0	35.4
	kW	2.09	2.11	2.14	2.16	2.12	2.14	2.17	2.19	2.16	2.17	2.19	2.22
	CMP	1.76	1.78	1.81	1.84	1.78	1.79	1.82	1.84	1.78	1.80	1.82	1.84
	LDB	40.9	45.3	50.9	57.0	44.3	47.7	53.3	59.6	47.4	49.9	55.8	61.6
	LWB	39.1	44.5	50.2	56.3	40.9	46.8	52.4	58.7	42.5	48.6	54.4	60.4
75	TCG	27.7	29.7	32.3	34.3	29.2	30.7	33.1	34.8	30.5	31.4	33.4	35.2
	SHG	27.7	24.9	21.0	16.8	29.2	26.8	22.3	17.5	30.5	28.6	23.4	18.1
	TC	27.2	29.3	31.8	33.8	28.7	30.1	32.6	34.3	29.9	30.8	32.8	34.6
	kW	2.24	2.27	2.31	2.33	2.29	2.31	2.34	2.37	2.33	2.34	2.36	2.40
	CMP	1.92	1.95	1.99	2.02	1.95	1.97	2.00	2.03	1.96	1.97	2.00	2.03
	LDB	42.0	45.9	51.3	57.2	45.3	48.2	53.7	59.5	48.2	50.2	55.8	61.4
	LWB	39.7	45.2	50.6	56.6	41.4	47.3	52.8	58.8	42.9	49.0	54.6	60.4
85	TCG	26.3	28.2	30.8	33.1	27.8	29.1	31.6	33.9	29.1	29.9	32.2	34.5
	SHG	26.3	23.9	20.3	16.3	27.8	25.9	21.6	17.1	29.1	27.8	22.9	17.9
	TC	25.8	27.7	30.4	32.7	27.3	28.6	31.1	33.4	28.5	29.3	31.6	33.9
	kW	2.40	2.44	2.48	2.51	2.45	2.47	2.50	2.55	2.50	2.51	2.54	2.58
	CMP	2.09	2.12	2.17	2.20	2.12	2.14	2.17	2.21	2.14	2.15	2.18	2.22
	LDB	43.1	46.5	51.7	57.4	46.3	48.6	54.0	59.5	49.0	50.4	55.8	61.2
	LWB	40.3	45.8	51.1	56.8	41.9	47.8	53.2	58.9	43.3	49.4	54.8	60.4
95	TCG	24.9	26.5	29.1	31.7	26.4	27.4	29.9	32.3	27.6	28.1	30.6	32.9
	SHG	24.9	22.9	19.4	15.7	26.4	24.9	20.8	16.5	27.6	26.7	22.1	17.3
	TC	24.5	26.0	28.7	31.2	25.9	26.9	29.4	31.8	27.0	27.5	30.0	32.3
	kW	2.58	2.61	2.67	2.71	2.63	2.65	2.70	2.74	2.68	2.69	2.73	2.77
	CMP	2.28	2.31	2.36	2.40	2.31	2.33	2.37	2.41	2.33	2.34	2.38	2.43
	LDB	44.3	47.3	52.3	57.8	47.4	49.3	54.4	59.9	50.0	51.0	56.1	61.5
	LWB	40.9	46.6	51.8	57.3	42.5	48.5	53.7	59.3	43.8	49.9	55.3	60.8
105	TCG	23.6	24.8	27.4	29.9	24.9	25.7	28.2	30.6	26.1	26.4	28.8	31.2
	SHG	23.6	21.9	18.5	14.9	24.9	23.8	19.9	15.8	26.1	25.6	21.3	16.6
	TC	23.2	24.4	26.9	29.5	24.4	25.2	27.7	30.1	25.5	25.8	28.3	30.6
	kW	2.77	2.80	2.87	2.91	2.83	2.84	2.90	2.94	2.87	2.88	2.93	2.98
	CMP	2.48	2.51	2.57	2.61	2.51	2.53	2.59	2.63	2.54	2.54	2.60	2.64
	LDB	45.5	48.0	53.1	58.4	48.5	50.0	55.0	60.4	51.1	51.7	56.5	61.9
	LWB	41.5	47.4	52.5	57.9	43.1	49.1	54.3	59.8	44.3	50.5	55.8	61.2
115	TCG	22.3	23.2	25.6	28.1	23.5	24.0	26.4	28.8	24.6	24.7	26.9	29.3
	SHG	22.3	20.9	17.6	14.2	23.5	22.8	19.0	15.0	24.6	24.4	20.3	15.8
	TC	21.9	22.8	25.2	27.7	23.0	23.5	25.9	28.3	24.0	24.2	26.4	28.8
	kW	2.99	3.01	3.08	3.13	3.04	3.05	3.12	3.17	3.09	3.09	3.15	3.20
	CMP	2.70	2.73	2.79	2.84	2.73	2.75	2.81	2.86	2.76	2.76	2.83	2.87
	LDB	46.7	48.8	53.8	59.0	49.7	50.7	55.6	60.9	52.2	52.3	57.1	62.3
	LWB	42.1	48.1	53.2	58.5	43.6	49.8	55.0	60.3	44.9	51.1	56.3	61.7
125	TCG	21.0	21.7	23.9	26.3	22.1	22.4	24.6	26.9	23.1	23.1	25.1	27.5
	SHG	21.0	20.0	16.8	13.5	22.1	21.7	18.1	14.3	23.1	23.1	19.4	15.1
	TC	20.6	21.3	23.5	25.9	21.7	21.9	24.1	26.4	22.5	22.5	24.6	26.9
	kW	3.22	3.24	3.30	3.37	3.27	3.28	3.34	3.40	3.32	3.32	3.38	3.44
	CMP	2.94	2.96	3.03	3.09	2.97	2.98	3.05	3.10	3.00	3.00	3.06	3.12
	LDB	47.9	49.5	54.5	59.7	50.8	51.4	56.3	61.4	53.3	53.2	57.6	62.8
	LWB	42.8	48.8	53.9	59.2	44.2	50.4	55.6	60.9	45.4	51.6	56.9	62.2

Rating condition.

Not recommended for long-term operation.

*Refer to Systems Index Table on page 21.

NOTES:
1. Direct interpolation is permissible. Do not extrapolate.
2. The SHG is based on 80 F edb temperature of air entering indoor coil.
   Below 80 F edb, subtract (corr factor x cfm) from SHG.
   Above 80 F edb, add (corr factor x cfm) to SHG.
   Correction Factor = 1.10 x (1 – BF) x (edb – 80).

LEGEND

BF — Bypass Factor
CMP — Compressor
Edb — Entering Dry Bulb
Ewb — Entering Wet Bulb
kW — Total Power
LDB — Leaving Dry Bulb
LWB — Leaving Wet Bulb
SHG — Gross Sensible Capacity (1000 Btuh)
TC — Total Net Cooling Capacity (1000 Btuh)
TCG — Gross Cooling Capacity (1000 Btuh)

GROSS COOLING CAPACITIES (cont)

SYSTEM 8* — CEILING-SUSPENDED SYSTEM; 538A036 WITH 619C036

Temp (F) AIR ENTERING CONDENSER (Edb)		AIR ENTERING EVAPORATOR — CFM/BF											
		640/0.03				740/0.03				840/0.04			
		Air Entering Evaporator — Ewb (F)											
		57	62	67	72	57	62	67	72	57	62	67	72
55	TCG	37.0	39.7	41.2	43.2	38.4	40.9	42.6	43.5	39.5	41.0	42.5	43.7
	SHG	35.3	30.9	25.5	20.8	37.8	32.9	27.0	21.2	39.5	34.1	27.5	21.5
	TC	36.4	39.2	40.6	42.6	37.7	40.2	42.0	42.8	38.8	40.3	41.7	42.9
	kW	1.99	2.01	2.02	2.04	2.02	2.04	2.06	2.07	2.05	2.06	2.08	2.10
	CMP	1.67	1.69	1.70	1.73	1.68	1.70	1.72	1.73	1.69	1.70	1.72	1.73
	LDB	37.1	42.5	49.2	55.0	40.3	45.5	51.8	58.1	43.5	48.7	54.8	60.4
	LWB	35.9	41.5	48.1	54.5	38.4	44.2	50.5	57.2	40.5	46.6	52.8	59.2
65	TCG	34.8	37.6	39.9	41.8	36.2	38.8	40.7	42.1	37.4	39.4	41.1	42.3
	SHG	33.7	29.5	24.8	20.1	36.1	31.6	26.0	20.5	37.4	33.2	26.9	20.9
	TC	34.3	37.0	39.3	41.3	35.6	38.1	40.1	41.5	36.7	38.7	40.3	41.6
	kW	2.23	2.25	2.27	2.29	2.26	2.28	2.30	2.32	2.29	2.31	2.33	2.35
	CMP	1.92	1.93	1.95	1.98	1.92	1.94	1.96	1.98	1.93	1.95	1.97	1.98
	LDB	37.5	42.8	48.8	54.9	40.7	45.7	51.8	57.9	44.1	48.2	54.4	60.2
	LWB	36.4	41.9	47.9	54.3	38.9	44.5	50.6	57.0	40.8	46.7	52.8	59.1
75	TCG	32.4	35.2	37.7	39.9	33.9	36.3	38.6	40.3	35.2	37.0	39.1	40.7
	SHG	31.7	27.9	23.6	19.2	33.8	29.9	24.9	19.7	35.2	31.7	25.9	20.2
	TC	31.8	34.6	37.2	39.4	33.3	35.7	38.0	39.7	34.5	36.3	38.4	40.0
	kW	2.50	2.53	2.56	2.59	2.54	2.57	2.59	2.62	2.58	2.60	2.62	2.65
	CMP	2.18	2.22	2.24	2.28	2.20	2.23	2.26	2.28	2.22	2.23	2.26	2.29
	LDB	38.4	43.4	49.1	55.0	41.7	46.1	51.9	57.9	44.9	48.5	54.3	60.1
	LWB	37.2	42.6	48.3	54.5	39.5	45.1	50.9	57.1	41.2	47.1	52.9	59.0
85	TCG	29.9	32.7	35.6	38.1	31.5	33.8	36.5	38.5	33.0	34.7	37.1	39.1
	SHG	29.7	26.4	22.5	18.3	31.5	28.3	23.8	18.9	33.0	30.2	24.9	19.6
	TC	29.4	32.2	35.0	37.6	30.9	33.2	35.9	37.9	32.4	34.0	36.4	38.4
	kW	2.77	2.82	2.85	2.89	2.82	2.85	2.89	2.92	2.87	2.88	2.91	2.95
	CMP	2.45	2.50	2.54	2.57	2.48	2.51	2.55	2.58	2.50	2.52	2.55	2.59
	LDB	39.4	44.0	49.4	55.2	42.7	46.6	52.0	57.9	45.6	48.7	54.3	60.0
	LWB	38.1	43.2	48.7	54.6	40.1	45.6	51.1	57.2	41.6	47.5	53.1	59.0
95	TCG	27.6	30.1	33.0	35.4	29.2	31.2	34.0	36.1	30.6	32.0	34.6	36.8
	SHG	27.6	24.6	21.0	17.1	29.2	26.6	22.4	17.8	30.6	28.4	23.6	18.6
	TC	27.1	29.6	32.5	34.9	28.6	30.6	33.4	35.5	30.0	31.4	34.0	36.1
	kW	3.07	3.13	3.18	3.22	3.13	3.18	3.22	3.25	3.19	3.21	3.25	3.29
	CMP	2.76	2.82	2.87	2.90	2.79	2.84	2.88	2.91	2.83	2.85	2.89	2.93
	LDB	40.6	44.9	50.1	55.8	44.0	47.2	52.5	58.3	46.8	49.3	54.5	60.1
	LWB	38.9	44.2	49.4	55.2	40.7	46.3	51.7	57.6	42.2	48.1	53.5	59.3
105	TCG	25.4	27.5	30.3	32.7	26.9	28.5	31.3	33.4	28.2	29.3	32.0	34.1
	SHG	25.4	22.9	19.6	15.9	26.9	24.8	21.0	16.6	28.2	26.6	22.2	17.4
	TC	24.9	27.0	29.8	32.2	26.4	28.0	30.7	32.8	27.6	28.7	31.4	33.5
	kW	3.40	3.46	3.54	3.57	3.47	3.51	3.58	3.61	3.53	3.56	3.62	3.66
	CMP	3.09	3.15	3.23	3.26	3.13	3.18	3.25	3.27	3.17	3.20	3.26	3.30
	LDB	42.1	45.9	50.9	56.5	45.3	48.1	53.1	58.8	48.0	49.9	55.0	60.6
	LWB	39.7	45.1	50.2	55.9	41.4	47.1	52.3	58.1	42.8	48.7	54.0	59.7
115	TCG	23.3	25.0	27.6	30.1	24.6	25.9	28.5	30.9	25.8	26.6	29.2	31.3
	SHG	23.3	21.2	18.1	14.8	24.6	23.0	19.4	15.5	25.8	24.7	20.7	16.2
	TC	22.8	24.5	27.1	29.7	24.1	25.4	28.0	30.3	25.2	26.0	28.6	30.7
	kW	3.76	3.82	3.91	3.98	3.83	3.88	3.97	4.02	3.90	3.92	4.01	4.05
	CMP	3.45	3.51	3.60	3.67	3.50	3.54	3.63	3.68	3.54	3.57	3.65	3.69
	LDB	43.5	46.8	51.8	57.1	46.7	49.0	53.9	59.3	49.3	50.7	55.6	61.1
	LWB	40.5	46.0	51.1	56.6	42.1	48.0	53.1	58.6	43.5	49.5	54.7	60.3
125	TCG	21.2	22.5	24.9	27.3	22.5	23.3	25.6	28.0	23.5	24.0	26.3	28.5
	SHG	21.2	19.6	16.6	13.5	22.5	21.3	17.9	14.3	23.5	22.8	19.1	14.9
	TC	20.8	22.1	24.5	26.9	22.0	22.8	25.1	27.5	22.9	23.4	25.7	27.9
	kW	4.14	4.20	4.30	4.39	4.22	4.26	4.36	4.43	4.28	4.30	4.41	4.46
	CMP	3.83	3.89	3.99	4.07	3.88	3.92	4.02	4.10	3.93	3.95	4.05	4.10
	LDB	45.1	47.8	52.8	58.0	48.1	49.8	54.8	60.0	50.7	51.5	56.3	61.6
	LWB	41.3	47.0	52.1	57.4	42.8	48.8	54.0	59.3	44.1	50.2	55.4	60.8

Rating condition.

Not recommended for long-term operation.

*Refer to Systems Index Table on page 21.

NOTES:
1. Direct interpolation is permissible. Do not extrapolate.
2. The SHG is based on 80 F edb temperature of air entering indoor coil.
   Below 80 F edb, subtract (corr factor x cfm) from SHG.
   Above 80 F edb, add (corr factor x cfm) to SHG.
   Correction Factor = 1.10 x (1 – BF) x (edb – 80).

LEGEND

BF — Bypass Factor
CMP — Compressor
Edb — Entering Dry Bulb
Ewb — Entering Wet Bulb
kW — Total Power
LDB — Leaving Dry Bulb
LWB — Leaving Wet Bulb
SHG — Gross Sensible Capacity (1000 Btuh)
TC — Total Net Cooling Capacity (1000 Btuh)
TCG — Gross Cooling Capacity (1000 Btuh)

GROSS COOLING CAPACITIES (cont)

SYSTEM 9* — CEILING-SUSPENDED SYSTEM; 538A048 WITH 619C048

TEMP (F) AIR ENTERING CONDENSER (Edb)		AIR ENTERING EVAPORATOR — CFM/BF											
		1100/0.05				1160/0.05				1200/0.06			
		Air Entering Evaporator — Ewb (F)											
		57	62	67	72	57	62	67	72	57	62	67	72
55	TCG	47.5	49.7	51.8	53.0	48.2	49.9	51.9	53.1	48.6	50.3	51.9	53.1
	SHG	46.5	39.7	32.7	25.9	47.6	40.4	33.0	26.1	48.2	41.0	33.3	26.2
	TC	46.4	48.6	50.7	51.9	47.0	48.7	50.7	51.9	47.4	49.1	50.7	51.9
	kW	2.86	2.87	2.90	2.91	2.88	2.89	2.92	2.93	2.90	2.91	2.93	2.95
	CMP	2.26	2.28	2.30	2.31	2.27	2.28	2.30	2.31	2.27	2.28	2.30	2.32
	LDB	42.0	47.6	53.5	59.2	43.1	48.9	54.7	60.2	43.9	49.4	55.4	60.8
	LWB	39.2	45.3	51.5	58.0	40.0	46.3	52.4	58.8	40.5	46.7	53.0	59.4
65	TCG	46.7	49.3	51.9	54.2	47.2	49.7	52.3	53.8	47.4	50.1	52.4	54.7
	SHG	46.2	39.9	33.0	26.4	47.0	40.8	33.6	26.4	47.4	41.5	33.9	26.9
	TC	45.6	48.2	50.8	53.2	46.0	48.5	51.2	52.7	46.3	48.9	51.2	53.5
	kW	3.18	3.19	3.22	3.25	3.20	3.21	3.24	3.26	3.21	3.23	3.26	3.29
	CMP	2.59	2.61	2.63	2.67	2.59	2.61	2.64	2.66	2.59	2.62	2.64	2.67
	LDB	41.6	47.0	52.8	58.5	43.0	48.0	53.8	59.6	44.0	48.6	54.5	60.0
	LWB	39.3	45.2	51.2	57.4	40.1	46.0	52.0	58.4	40.7	46.5	52.6	58.7
75	TCG	44.7	47.6	50.7	53.4	45.4	48.1	51.1	53.2	45.8	48.4	51.3	54.1
	SHG	44.5	39.2	32.5	26.1	45.3	40.1	33.2	26.2	45.8	40.8	33.5	26.7
	TC	43.7	46.6	49.6	52.4	44.3	46.9	50.0	52.1	44.7	47.3	50.1	52.9
	kW	3.52	3.55	3.58	3.62	3.54	3.57	3.60	3.63	3.56	3.59	3.61	3.66
	CMP	2.95	2.97	3.00	3.04	2.95	2.98	3.01	3.04	2.96	2.98	3.01	3.05
	LDB	42.5	47.1	52.8	58.4	43.8	48.1	53.7	59.5	44.7	48.6	54.4	59.8
	LWB	39.8	45.5	51.3	57.4	40.6	46.4	52.2	58.3	41.1	46.9	52.7	58.6
85	TCG	42.8	46.0	49.4	52.7	43.7	46.4	49.9	52.6	44.2	46.8	50.1	53.4
	SHG	42.8	38.4	32.0	25.8	43.7	39.3	32.7	25.9	44.2	40.0	33.2	26.5
	TC	41.7	45.0	48.4	51.6	42.6	45.3	48.8	51.5	43.1	45.6	49.0	52.3
	kW	3.86	3.90	3.94	3.98	3.89	3.92	3.96	4.00	3.91	3.94	3.97	4.03
	CMP	3.30	3.34	3.37	3.42	3.31	3.34	3.38	3.42	3.32	3.35	3.38	3.44
	LDB	43.4	47.2	52.8	58.3	44.6	48.2	53.7	59.3	45.4	48.7	54.2	59.6
	LWB	40.4	45.9	51.5	57.3	41.0	46.7	52.3	58.2	41.4	47.2	52.8	58.5
95	TCG	40.8	43.6	47.3	50.3	41.6	44.1	47.8	50.5	42.1	44.5	48.1	51.1
	SHG	40.8	37.0	31.1	24.8	41.6	38.1	31.8	25.1	42.1	38.8	32.3	25.5
	TC	39.7	42.6	46.3	49.3	40.5	43.0	46.7	49.4	41.0	43.4	47.0	50.0
	kW	4.23	4.28	4.33	4.37	4.26	4.31	4.35	4.38	4.28	4.33	4.37	4.41
	CMP	3.68	3.74	3.78	3.82	3.70	3.75	3.79	3.82	3.71	3.75	3.79	3.84
	LDB	44.5	47.9	53.2	58.8	45.7	48.7	54.0	59.7	46.5	49.2	54.5	60.1
	LWB	41.0	46.6	52.0	57.8	41.6	47.3	52.7	58.6	42.0	47.7	53.2	59.0
105	TCG	38.6	41.0	45.0	48.3	39.5	41.5	45.4	48.5	39.9	41.9	45.7	49.1
	SHG	38.6	35.5	30.0	24.0	39.5	36.5	30.7	24.3	39.9	37.2	31.2	24.7
	TC	37.6	40.0	44.0	47.3	38.4	40.5	44.4	47.5	38.8	40.8	44.6	48.0
	kW	4.62	4.67	4.75	4.80	4.65	4.70	4.77	4.81	4.68	4.72	4.79	4.84
	CMP	4.09	4.14	4.21	4.26	4.10	4.15	4.22	4.26	4.11	4.16	4.23	4.28
	LDB	45.9	48.7	53.7	59.2	47.0	49.5	54.5	60.0	47.7	50.0	54.9	60.4
	LWB	41.7	47.4	52.6	58.2	42.3	48.1	53.3	59.0	42.7	48.5	53.7	59.3
115	TCG	36.6	38.5	42.3	45.9	37.3	38.9	42.8	46.3	37.8	39.2	43.1	46.7
	SHG	36.6	34.0	28.8	23.0	37.3	35.0	29.5	23.4	37.8	35.6	30.0	23.8
	TC	35.6	37.5	41.3	44.9	36.2	37.9	41.8	45.2	36.7	38.1	42.0	45.6
	kW	5.03	5.08	5.18	5.25	5.07	5.11	5.21	5.27	5.09	5.13	5.23	5.29
	CMP	4.51	4.56	4.66	4.72	4.53	4.57	4.67	4.73	4.54	4.58	4.68	4.74
	LDB	47.2	49.6	54.4	59.7	48.3	50.3	55.1	60.4	49.0	50.8	55.5	60.8
	LWB	42.4	48.2	53.3	58.8	43.0	48.8	54.0	59.5	43.3	49.2	54.4	59.8
125	TCG	34.4	35.9	39.5	42.9	35.1	36.4	39.9	43.7	35.5	36.6	40.1	44.0
	SHG	34.4	32.5	27.4	21.8	35.1	33.5	28.1	22.4	35.5	34.1	28.6	22.7
	TC	33.4	35.0	38.5	41.9	34.0	35.3	38.9	42.7	34.4	35.5	39.0	42.9
	kW	5.46	5.50	5.61	5.68	5.49	5.53	5.64	5.73	5.52	5.55	5.66	5.76
	CMP	4.95	4.99	5.10	5.16	4.97	5.00	5.11	5.21	4.98	5.01	5.12	5.22
	LDB	48.6	50.4	55.2	60.5	49.7	51.2	55.9	61.0	50.4	51.6	56.3	61.4
	LWB	43.1	49.0	54.1	59.6	43.7	49.6	54.8	60.0	44.0	50.0	55.2	60.4

Rating condition.

Not recommended for long-term operation.

*Refer to Systems Index Table on page 21.

NOTES:
1. Direct interpolation is permissible. Do not extrapolate.
2. The SHG is based on 80 F edb temperature of air entering indoor coil.
   Below 80 F edb, subtract (corr factor x cfm) from SHG.
   Above 80 F edb, add (corr factor x cfm) to SHG.
   Correction Factor = 1.10 x (1 – BF) x (edb – 80).

LEGEND

BF — Bypass Factor
CMP — Compressor
Edb — Entering Dry Bulb
Ewb — Entering Wet Bulb
kW — Total Power
LDB — Leaving Dry Bulb
LWB — Leaving Wet Bulb
SHG — Gross Sensible Capacity (1000 Btuh)
TC — Total Net Cooling Capacity (1000 Btuh)
TCG — Gross Cooling Capacity (1000 Btuh)

GROSS COOLING CAPACITIES (cont)

SYSTEM 10* — CEILING-SUSPENDED SYSTEM; 538A060 WITH 619C060

TEMP (F) AIR ENTERING CONDENSER (Edb)		AIR ENTERING EVAPORATOR — CFM/BF											
		1040/0.03				1220/0.04				1600/0.06			
		Air Entering Evaporator — Ewb (F)											
		57	62	67	72	57	62	67	72	57	62	67	72
55	TCG	58.9	63.3	67.7	71.5	61.4	65.4	69.6	71.4	66.0	67.6	71.2	73.3
	SHG	55.8	48.9	41.7	34.2	60.1	52.3	43.9	34.6	66.0	58.2	47.4	36.7
	TC	57.8	62.2	66.6	70.4	60.0	64.1	68.3	70.1	64.3	65.9	69.4	71.6
	kW	3.94	3.99	4.05	4.11	4.02	4.07	4.13	4.15	4.20	4.21	4.27	4.30
	CMP	3.37	3.42	3.48	3.53	3.39	3.44	3.51	3.53	3.46	3.47	3.52	3.56
	LDB	36.8	42.2	47.9	53.8	40.3	45.6	51.3	57.5	46.9	51.0	56.5	62.0
	LWB	35.4	41.1	46.9	53.2	38.3	44.1	49.9	56.6	42.3	48.5	54.3	60.5
65	TCG	56.1	60.6	65.2	69.6	58.7	62.6	66.7	71.1	63.3	65.3	68.9	71.8
	SHG	53.7	47.2	40.3	33.3	58.1	50.6	42.4	34.5	63.3	57.0	46.5	36.1
	TC	55.0	59.5	64.1	68.5	57.4	61.3	65.4	69.8	61.6	63.6	67.3	70.1
	kW	4.16	4.21	4.27	4.34	4.24	4.28	4.34	4.42	4.41	4.43	4.48	4.53
	CMP	3.61	3.66	3.72	3.79	3.64	3.68	3.74	3.81	3.70	3.72	3.77	3.82
	LDB	37.2	42.5	48.1	53.8	40.6	45.8	51.5	57.0	47.4	50.7	56.3	61.8
	LWB	36.0	41.5	47.2	53.2	38.7	44.4	50.2	56.1	42.5	48.6	54.4	60.3
75	TCG	52.8	57.3	61.9	66.3	55.4	59.3	63.7	68.0	60.3	62.1	66.1	69.4
	SHG	51.0	45.1	38.6	31.8	55.1	48.6	40.8	33.1	60.3	55.1	45.2	35.1
	TC	51.7	56.2	60.9	65.3	54.2	58.1	62.4	66.7	58.6	60.5	64.4	67.7
	kW	4.36	4.43	4.50	4.57	4.46	4.51	4.57	4.65	4.63	4.65	4.71	4.77
	CMP	3.84	3.91	3.97	4.04	3.88	3.93	4.00	4.07	3.95	3.97	4.03	4.09
	LDB	38.2	43.1	48.6	54.3	41.6	46.2	51.7	57.3	48.1	50.9	56.3	61.8
	LWB	36.8	42.1	47.7	53.7	39.3	44.9	50.6	56.4	42.8	48.9	54.6	60.4
85	TCG	49.4	54.1	58.7	63.1	52.1	56.1	60.7	64.9	57.2	58.9	63.2	66.9
	SHG	48.4	43.0	36.8	30.2	52.1	46.6	39.3	31.7	57.2	53.2	43.9	34.2
	TC	48.4	53.0	57.7	62.0	50.9	54.9	59.5	63.6	55.6	57.3	61.6	65.3
	kW	4.57	4.66	4.73	4.80	4.67	4.73	4.81	4.88	4.86	4.87	4.95	5.01
	CMP	4.07	4.15	4.22	4.29	4.12	4.18	4.26	4.33	4.21	4.22	4.30	4.36
	LDB	39.1	43.7	49.1	54.8	42.6	46.6	52.0	57.6	48.8	51.1	56.3	61.7
	LWB	37.6	42.8	48.3	54.1	40.0	45.4	50.9	56.7	43.2	49.3	54.8	60.5
95	TCG	46.2	50.4	55.1	59.4	48.9	52.5	57.0	61.2	53.9	55.3	59.5	63.5
	SHG	45.8	40.7	34.9	28.6	48.9	44.3	37.4	30.1	53.9	50.8	42.0	32.7
	TC	45.2	49.4	54.1	58.4	47.7	51.3	55.8	60.1	52.3	53.8	58.0	61.9
	kW	4.78	4.87	4.96	5.03	4.88	4.96	5.04	5.11	5.09	5.10	5.18	5.25
	CMP	4.30	4.39	4.48	4.55	4.36	4.44	4.51	4.59	4.47	4.48	4.56	4.63
	LDB	40.1	44.7	49.8	55.4	43.8	47.3	52.5	58.1	49.7	51.5	56.6	61.9
	LWB	38.5	43.7	49.0	54.7	40.6	46.1	51.5	57.2	43.7	49.7	55.2	60.8
105	TCG	42.9	46.8	51.4	55.7	45.7	48.6	53.2	57.4	50.3	51.5	55.6	59.7
	SHG	42.9	38.4	32.9	27.0	45.7	41.8	35.4	28.5	50.3	48.4	40.1	31.2
	TC	41.9	45.8	50.5	54.7	44.5	47.5	52.1	56.3	48.8	50.0	54.1	58.2
	kW	4.98	5.07	5.18	5.26	5.09	5.16	5.27	5.35	5.30	5.32	5.40	5.48
	CMP	4.52	4.62	4.73	4.81	4.59	4.66	4.77	4.85	4.70	4.73	4.81	4.89
	LDB	41.5	45.6	50.6	56.1	45.1	48.1	53.2	58.6	50.9	52.0	57.0	62.3
	LWB	39.4	44.6	49.8	55.4	41.3	47.0	52.2	57.8	44.2	50.3	55.7	61.2
115	TCG	39.8	43.1	47.5	51.8	42.4	44.8	49.3	53.4	46.7	47.5	51.6	55.6
	SHG	39.8	36.1	30.9	25.3	42.4	39.4	33.3	26.7	46.7	45.6	38.0	29.5
	TC	38.9	42.1	46.6	50.9	41.3	43.7	48.2	52.3	45.2	46.0	50.1	54.1
	kW	5.16	5.26	5.38	5.48	5.28	5.35	5.48	5.56	5.49	5.51	5.61	5.70
	CMP	4.73	4.82	4.95	5.05	4.81	4.87	5.00	5.09	4.93	4.95	5.05	5.14
	LDB	43.1	46.6	51.6	56.9	46.6	49.0	53.9	59.3	52.1	52.8	57.5	62.7
	LWB	40.3	45.6	50.8	56.2	42.1	47.8	53.0	58.4	44.8	50.9	56.2	61.6
125	TCG	36.7	39.4	43.5	47.8	39.1	40.9	45.1	49.3	43.0	43.4	47.4	51.3
	SHG	36.7	33.8	28.8	23.6	39.1	36.9	31.1	25.0	43.0	42.6	35.8	27.7
	TC	35.8	38.4	42.6	46.9	38.1	39.8	44.0	48.3	41.6	42.0	46.0	49.9
	kW	5.34	5.42	5.56	5.68	5.45	5.51	5.65	5.76	5.66	5.67	5.80	5.90
	CMP	4.93	5.01	5.15	5.27	5.00	5.06	5.20	5.31	5.13	5.14	5.27	5.37
	LDB	44.8	47.7	52.6	57.8	48.1	50.0	54.8	60.0	53.4	53.7	58.0	63.2
	LWB	41.2	46.7	51.8	57.0	42.9	48.7	53.8	59.2	45.5	51.6	56.8	62.2

Rating condition.

Not recommended for long-term operation.

LEGEND

BF — Bypass Factor
CMP — Compressor
Edb — Entering Dry Bulb
Ewb — Entering Wet Bulb
kW — Total Power
LDB — Leaving Dry Bulb
LWB — Leaving Wet Bulb
SHG — Gross Sensible Capacity (1000 Btuh)
TC — Total Net Cooling Capacity (1000 Btuh)
TCG — Gross Cooling Capacity (1000 Btuh)

*Refer to Systems Index Table on page 21.

NOTES:
1. Direct interpolation is permissible. Do not extrapolate.
2. The SHG is based on 80 F edb temperature of air entering indoor coil.
   Below 80 F edb, subtract (corr factor x cfm) from SHG.
   Above 80 F edb, add (corr factor x cfm) to SHG.
   Correction Factor = 1.10 x (1 – BF) x (edb – 80).

GROSS COOLING CAPACITIES (cont)

SYSTEM 11* — IN-CEILING CASSETTE SYSTEM; 538A018 WITH 619F024

TEMP (F) AIR ENTEIRNG CONDENSER (Edb)		AIR ENTERING EVAPORATOR — CFM/BF											
		375/0.03				415/0.03				525/0.05			
		Air Entering Evaporator — Ewb (F)											
		57	62	67	72	57	62	67	72	57	62	67	72
55	TCG	19.0	20.7	22.3	23.3	19.6	21.2	22.4	23.5	21.0	22.0	23.3	23.7
	SHG	18.2	16.1	13.7	11.2	19.3	16.9	14.0	11.3	21.0	18.5	15.2	11.7
	TC	18.6	20.4	22.0	23.0	19.3	20.9	22.1	23.2	20.6	21.6	22.9	23.3
	kW	1.33	1.35	1.36	1.37	1.35	1.36	1.37	1.39	1.39	1.40	1.42	1.42
	CMP	1.05	1.07	1.08	1.09	1.06	1.07	1.08	1.10	1.07	1.08	1.10	1.10
	LDB	37.1	42.2	47.9	54.1	39.1	44.3	50.4	56.2	44.8	49.2	54.8	60.8
	LWB	36.0	41.3	47.0	53.5	37.7	43.1	49.2	55.5	41.2	47.1	52.9	59.4
65	TCG	17.8	19.6	21.3	22.7	18.4	20.1	21.9	23.2	20.1	21.2	22.8	23.7
	SHG	17.4	15.5	13.3	10.9	18.4	16.3	13.8	11.2	20.1	18.3	15.1	11.7
	TC	17.4	19.2	21.0	22.4	18.0	19.7	21.5	22.8	19.7	20.8	22.3	23.2
	kW	1.41	1.44	1.46	1.48	1.43	1.45	1.48	1.49	1.48	1.50	1.52	1.53
	CMP	1.14	1.17	1.18	1.20	1.15	1.17	1.19	1.21	1.17	1.19	1.21	1.22
	LDB	38.3	43.0	48.4	54.2	40.2	44.9	50.3	56.1	45.7	48.9	54.4	60.3
	LWB	37.2	42.2	47.6	53.6	38.7	43.9	49.3	55.4	41.6	47.4	53.0	59.1
75	TCG	16.6	18.2	20.0	21.7	17.3	18.7	20.6	22.1	19.0	19.8	21.5	22.8
	SHG	16.5	14.7	12.6	10.4	17.3	15.5	13.2	10.7	19.0	17.6	14.6	11.4
	TC	16.3	17.9	19.7	21.4	16.9	18.4	20.2	21.8	18.5	19.4	21.1	22.4
	kW	1.47	1.51	1.54	1.57	1.50	1.53	1.56	1.59	1.56	1.58	1.60	1.63
	CMP	1.21	1.24	1.28	1.31	1.22	1.25	1.29	1.31	1.26	1.27	1.30	1.33
	LDB	39.9	44.2	49.3	54.8	42.0	46.0	51.1	56.6	47.1	49.6	54.8	60.5
	LWB	38.3	43.4	48.6	54.3	39.7	45.0	50.2	56.0	42.4	48.2	53.6	59.4
85	TCG	15.5	16.9	18.8	20.7	16.2	17.4	19.3	21.1	17.8	18.4	20.2	21.9
	SHG	15.5	13.9	12.0	9.98	16.2	14.7	12.6	10.3	17.8	16.8	14.1	11.1
	TC	15.2	16.6	18.5	20.3	15.8	17.0	18.9	20.7	17.3	18.0	19.8	21.5
	kW	1.54	1.58	1.62	1.66	1.57	1.60	1.65	1.68	1.64	1.65	1.69	1.72
	CMP	1.28	1.32	1.37	1.41	1.30	1.33	1.38	1.41	1.34	1.36	1.40	1.43
	LDB	41.5	45.5	50.3	55.5	43.7	47.0	51.9	57.2	48.6	50.3	55.3	60.6
	LWB	39.4	44.7	49.6	54.9	40.6	46.1	51.1	56.5	43.1	49.1	54.2	59.7
95	TCG	14.5	15.6	17.3	19.2	15.1	16.0	17.8	19.7	16.6	16.9	18.7	20.6
	SHG	14.5	13.2	11.3	9.38	15.1	13.9	11.9	9.74	16.6	15.9	13.4	10.6
	TC	14.2	15.3	17.0	18.9	14.8	15.7	17.4	19.4	16.1	16.5	18.3	20.1
	kW	1.59	1.63	1.68	1.74	1.62	1.65	1.70	1.76	1.69	1.71	1.76	1.81
	CMP	1.34	1.38	1.43	1.49	1.36	1.39	1.45	1.50	1.41	1.42	1.47	1.52
	LDB	43.3	46.7	51.5	56.5	45.5	48.2	53.0	58.0	50.2	51.3	56.0	61.1
	LWB	40.4	45.9	50.8	55.9	41.5	47.2	52.2	57.3	43.9	50.0	55.1	60.3
105	TCG	13.5	14.3	15.9	17.7	14.0	14.7	16.3	18.2	15.4	15.5	17.1	19.0
	SHG	13.5	12.4	10.6	8.75	14.0	13.2	11.2	9.12	15.4	15.1	12.6	10.0
	TC	13.2	14.0	15.6	17.4	13.7	14.3	16.0	17.8	15.0	15.1	16.7	18.6
	kW	1.63	1.67	1.73	1.79	1.67	1.69	1.75	1.82	1.74	1.75	1.81	1.87
	CMP	1.39	1.43	1.49	1.55	1.41	1.44	1.50	1.57	1.46	1.47	1.53	1.60
	LDB	45.2	47.9	52.7	57.7	47.3	49.3	54.1	59.0	51.8	52.3	57.0	61.8
	LWB	41.4	47.1	52.0	57.0	42.4	48.3	53.3	58.4	44.7	50.8	55.9	61.0
115	TCG	12.5	13.1	14.6	16.3	13.0	13.4	14.9	16.6	14.2	14.3	15.6	17.4
	SHG	12.5	11.7	9.98	8.16	13.0	12.5	10.5	8.50	14.2	14.1	11.9	9.40
	TC	12.2	12.8	14.3	16.0	12.7	13.1	14.6	16.3	13.8	13.9	15.2	17.0
	kW	1.66	1.69	1.76	1.83	1.70	1.71	1.78	1.85	1.77	1.78	1.84	1.91
	CMP	1.43	1.46	1.52	1.59	1.45	1.47	1.54	1.61	1.51	1.51	1.57	1.64
	LDB	47.2	49.2	53.9	58.8	49.1	50.5	55.2	60.1	53.5	53.7	57.8	62.7
	LWB	42.4	48.2	53.2	58.2	43.4	49.4	54.4	59.4	45.5	51.6	56.8	61.9
125	TCG	11.5	11.8	13.2	14.8	12.0	12.1	13.5	15.1	13.0	13.1	14.1	15.8
	SHG	11.5	11.0	9.33	7.56	12.0	11.7	9.85	7.89	13.0	13.1	11.2	8.76
	TC	11.2	11.5	12.9	14.5	11.7	11.8	13.2	14.8	12.7	12.7	13.7	15.4
	kW	1.69	1.71	1.79	1.86	1.73	1.74	1.81	1.89	1.81	1.81	1.86	1.94
	CMP	1.47	1.49	1.56	1.64	1.49	1.50	1.57	1.65	1.55	1.55	1.60	1.68
	LDB	49.2	50.4	55.1	60.0	51.0	51.6	56.3	61.1	55.1	55.1	58.7	63.6
	LWB	43.4	49.4	54.3	59.3	44.3	50.5	55.4	60.4	46.3	52.4	57.7	62.7

Rating condition.

Not recommended for long-term operation.

*Refer to Systems Index Table on page 21.

NOTES:
1. Direct interpolation is permissible. Do not extrapolate.
2. The SHG is based on 80 F edb temperature of air entering indoor coil.
   Below 80 F edb, subtract (corr factor x cfm) from SHG.
   Above 80 F edb, add (corr factor x cfm) to SHG.
   Correction Factor = 1.10 x (1 – BF) x (edb – 80).

LEGEND

BF — Bypass Factor
CMP — Compressor
Edb — Entering Dry Bulb
Ewb — Entering Wet Bulb
kW — Total Power
LDB — Leaving Dry Bulb
LWB — Leaving Wet Bulb
SHG — Gross Sensible Capacity (1000 Btuh)
TC — Total Net Cooling Capacity (1000 Btuh)
TCG — Gross Cooling Capacity (1000 Btuh)

GROSS COOLING CAPACITIES (cont)

SYSTEM 12* — IN-CEILING CASSETTE SYSTEM; 538A024 WITH 619F036

TEMP (F) AIR ENTERING CONDENSER (Edb)		AIR ENTERING EVAPORATOR — CFM/BF											
		635/0.08				745/0.10				915/0.12			
		Air Entering Evaporator — Ewb (F)											
		57	62	67	72	57	62	67	72	57	62	67	72
55	TCG	26.7	28.5	30.1	31.7	28.0	29.2	30.9	32.1	29.4	29.9	31.8	33.0
	SHG	26.7	23.7	19.4	15.5	28.0	25.3	20.6	16.0	29.4	27.3	22.1	16.8
	TC	26.3	28.0	29.6	31.2	27.4	28.7	30.4	31.6	28.8	29.2	31.2	32.3
	kW	2.14	2.15	2.16	2.18	2.18	2.19	2.20	2.21	2.24	2.24	2.26	2.27
	CMP	1.71	1.72	1.73	1.75	1.72	1.73	1.74	1.75	1.73	1.73	1.75	1.76
	LDB	45.2	49.1	54.9	60.0	49.0	52.0	57.3	62.5	53.5	55.5	60.3	65.1
	LWB	41.3	47.0	52.9	58.8	43.3	49.2	54.9	60.9	45.5	51.6	57.1	62.9
65	TCG	25.2	26.7	29.0	30.4	26.5	27.5	29.7	31.1	27.9	28.4	30.3	31.9
	SHG	25.2	22.6	19.0	15.0	26.5	24.4	20.2	15.6	27.9	26.7	21.6	16.5
	TC	24.8	26.2	28.6	30.0	26.0	27.0	29.2	30.6	27.3	27.7	29.6	31.3
	kW	2.16	2.16	2.18	2.19	2.19	2.20	2.22	2.23	2.25	2.25	2.27	2.29
	CMP	1.76	1.77	1.79	1.80	1.77	1.78	1.80	1.81	1.78	1.78	1.80	1.82
	LDB	45.8	49.3	54.3	59.9	49.5	51.9	56.8	62.2	53.9	55.0	59.9	64.8
	LWB	41.7	47.4	52.8	58.8	43.5	49.5	54.9	60.8	45.7	51.7	57.2	62.8
75	TCG	23.5	24.8	27.1	28.7	24.8	25.6	27.8	29.4	26.2	26.5	28.4	30.3
	SHG	23.5	21.5	18.0	14.2	24.8	23.2	19.2	14.9	26.2	25.5	20.8	15.9
	TC	23.1	24.4	26.7	28.3	24.3	25.1	27.3	28.9	25.6	25.9	27.8	29.7
	kW	2.15	2.16	2.18	2.19	2.19	2.19	2.21	2.23	2.24	2.24	2.26	2.28
	CMP	1.79	1.80	1.82	1.83	1.80	1.81	1.83	1.84	1.81	1.82	1.83	1.85
	LDB	46.8	49.7	54.7	60.1	50.2	52.1	57.0	62.3	54.5	55.1	59.9	64.7
	LWB	42.2	47.9	53.3	59.1	43.9	49.9	55.2	60.9	46.0	52.0	57.4	62.9
85	TCG	21.9	23.0	25.1	27.0	23.1	23.7	25.8	27.8	24.5	24.7	26.6	28.6
	SHG	21.9	20.3	17.0	13.5	23.1	22.0	18.2	14.3	24.5	24.3	19.9	15.3
	TC	21.5	22.6	24.7	26.6	22.6	23.3	25.4	27.3	23.9	24.1	26.0	28.0
	kW	2.14	2.16	2.17	2.19	2.18	2.18	2.20	2.22	2.22	2.23	2.24	2.27
	CMP	1.82	1.83	1.85	1.87	1.84	1.84	1.86	1.88	1.84	1.85	1.86	1.89
	LDB	47.7	50.1	55.1	60.3	51.0	52.4	57.2	62.3	55.1	55.3	59.8	64.6
	LWB	42.7	48.4	53.7	59.3	44.3	50.3	55.6	61.1	46.3	52.3	57.7	63.1
95	TCG	20.2	21.1	23.2	25.1	21.4	21.8	23.8	25.8	22.7	22.8	24.5	26.6
	SHG	20.2	19.0	16.0	12.7	21.4	20.7	17.1	13.4	22.7	22.7	18.9	14.5
	TC	19.9	20.7	22.8	24.7	20.9	21.3	23.4	25.3	22.2	22.2	24.0	26.0
	kW	2.10	2.11	2.13	2.15	2.13	2.14	2.16	2.18	2.18	2.18	2.20	2.23
	CMP	1.82	1.83	1.85	1.87	1.83	1.84	1.85	1.88	1.85	1.85	1.86	1.89
	LDB	48.8	50.7	55.5	60.7	52.0	52.9	57.6	62.6	55.8	55.8	60.0	64.8
	LWB	43.2	49.0	54.2	59.7	44.8	50.8	56.0	61.5	46.6	52.7	58.0	63.3
105	TCG	18.6	19.3	21.3	23.2	19.7	19.9	21.9	23.8	20.9	20.9	22.5	24.5
	SHG	18.6	17.7	14.9	11.9	19.7	19.3	16.1	12.5	20.9	20.9	17.7	13.6
	TC	18.3	18.9	20.9	22.9	19.3	19.5	21.4	23.3	20.4	20.4	22.0	24.0
	kW	2.03	2.04	2.07	2.09	2.06	2.07	2.09	2.11	2.11	2.11	2.12	2.15
	CMP	1.78	1.79	1.82	1.84	1.80	1.80	1.83	1.84	1.81	1.81	1.83	1.86
	LDB	49.8	51.4	56.0	61.0	52.9	53.5	58.0	63.0	56.6	56.6	60.3	65.0
	LWB	43.7	49.7	54.8	60.1	45.2	51.3	56.5	61.8	47.0	53.1	58.4	63.7
115	TCG	17.1	17.6	19.4	21.3	18.1	18.2	19.9	21.8	19.2	19.2	20.5	22.4
	SHG	17.1	16.5	13.8	11.0	18.1	17.9	15.0	11.7	19.2	19.2	16.6	12.7
	TC	16.8	17.3	19.1	21.0	17.7	17.8	19.5	21.4	18.7	18.7	20.0	21.9
	kW	1.89	1.90	1.93	1.96	1.93	1.93	1.95	1.98	1.97	1.97	1.99	2.01
	CMP	1.68	1.69	1.72	1.75	1.70	1.70	1.73	1.75	1.72	1.72	1.74	1.76
	LDB	50.9	52.0	56.7	61.5	53.9	54.2	58.5	63.4	57.5	57.5	60.7	65.4
	LWB	44.2	50.3	55.4	60.6	45.7	51.8	57.0	62.3	47.4	53.4	58.8	64.0
125	TCG	15.6	15.9	17.5	19.4	16.5	16.5	18.0	19.8	17.5	17.5	18.5	20.4
	SHG	15.6	15.3	12.8	10.1	16.5	16.5	13.8	10.8	17.5	17.5	15.4	11.8
	TC	15.3	15.6	17.2	19.0	16.1	16.1	17.6	19.4	17.0	17.0	18.1	19.9
	kW	1.76	1.77	1.80	1.83	1.79	1.79	1.82	1.84	1.83	1.83	1.85	1.87
	CMP	1.59	1.59	1.62	1.65	1.60	1.60	1.63	1.66	1.62	1.62	1.64	1.67
	LDB	52.0	52.7	57.3	62.1	54.9	54.9	59.0	63.8	58.4	58.4	61.1	65.7
	LWB	44.8	50.9	56.0	61.2	46.2	52.3	57.5	62.7	47.8	53.8	59.2	64.4

Rating condition.

Not recommended for long-term operation.

*Refer to Systems Index Table on page 21.

NOTES:
1. Direct interpolation is permissible. Do not extrapolate.
2. The SHG is based on 80 F edb temperature of air entering indoor coil.
   Below 80 F edb, subtract (corr factor x cfm) from SHG.
   Above 80 F edb, add (corr factor x cfm) to SHG.
   Correction Factor = 1.10 x (1 – BF) x (edb – 80).

LEGEND

BF — Bypass Factor
CMP — Compressor
Edb — Entering Dry Bulb
Ewb — Entering Wet Bulb
kW — Total Power
LDB — Leaving Dry Bulb
LWB — Leaving Wet Bulb
SHG — Gross Sensible Capacity (1000 Btuh)
TC — Total Net Cooling Capacity (1000 Btuh)
TCG — Gross Cooling Capacity (1000 Btuh)

GROSS COOLING CAPACITIES (cont)

SYSTEM 13* — IN-CEILING CASSETTE SYSTEM; 538A030 WITH 619F036

TEMP (F) AIR ENTERING CONDENSER (Edb)		AIR ENTERING EVAPORATOR — CFM/BF											
		635/0.08				745/0.10				915/0.12			
		Air Entering Evaporator — Ewb (F)											
		57	62	67	72	57	62	67	72	57	62	67	72
55	TCG	33.1	35.7	38.1	39.2	34.6	36.8	38.8	39.4	36.5	37.7	39.0	40.2
	SHG	32.7	28.6	24.0	19.0	34.6	30.5	25.0	19.3	36.5	32.8	26.0	20.1
	TC	32.6	35.2	37.6	38.7	34.0	36.2	38.2	38.8	35.8	36.9	38.3	39.5
	kW	2.10	2.13	2.15	2.16	2.14	2.16	2.18	2.19	2.19	2.21	2.22	2.24
	CMP	1.77	1.79	1.81	1.83	1.78	1.80	1.82	1.83	1.80	1.81	1.82	1.84
	LDB	41.5	46.4	52.0	57.9	45.3	49.5	55.1	60.9	50.3	53.3	59.1	63.9
	LWB	39.2	44.6	50.5	57.0	41.4	47.1	53.0	59.5	44.0	49.9	55.9	61.9
65	TCG	30.8	33.4	36.0	38.1	32.6	34.5	37.0	38.7	34.5	35.7	38.0	39.1
	SHG	30.7	27.1	22.8	18.5	32.6	29.2	24.2	19.1	34.5	31.9	25.9	19.7
	TC	30.3	33.0	35.5	37.6	32.0	34.0	36.5	38.1	33.8	35.0	37.3	38.4
	kW	2.28	2.31	2.34	2.36	2.33	2.34	2.37	2.40	2.38	2.39	2.43	2.44
	CMP	1.95	1.98	2.01	2.03	1.98	1.99	2.02	2.04	1.99	2.00	2.03	2.05
	LDB	42.2	46.6	52.0	57.5	45.8	49.5	54.8	60.3	50.6	52.9	58.1	63.5
	LWB	39.7	45.0	50.7	56.7	41.7	47.4	53.0	59.1	44.1	50.0	55.6	61.7
75	TCG	28.6	30.9	33.6	36.0	30.3	32.0	34.6	36.6	32.2	33.2	35.6	37.4
	SHG	28.5	25.4	21.6	17.5	30.3	27.5	22.9	18.2	32.2	30.3	24.7	19.1
	TC	28.1	30.5	33.2	35.5	29.7	31.5	34.1	36.1	31.6	32.5	35.0	36.7
	kW	2.48	2.52	2.56	2.59	2.54	2.56	2.59	2.63	2.60	2.62	2.65	2.68
	CMP	2.16	2.19	2.23	2.27	2.19	2.21	2.25	2.28	2.21	2.23	2.26	2.29
	LDB	43.2	47.2	52.3	57.7	46.8	49.9	55.0	60.3	51.3	53.0	58.1	63.2
	LWB	40.3	45.7	51.1	56.9	42.2	47.9	53.3	59.2	44.4	50.4	55.9	61.6
85	TCG	26.3	28.4	31.2	33.8	27.9	29.5	32.2	34.6	29.9	30.7	33.2	35.6
	SHG	26.3	23.7	20.3	16.5	27.9	25.8	21.6	17.3	29.9	28.6	23.5	18.4
	TC	25.9	28.0	30.8	33.4	27.4	29.0	31.7	34.1	29.3	30.1	32.6	35.0
	kW	2.68	2.73	2.78	2.82	2.74	2.77	2.82	2.85	2.82	2.84	2.87	2.91
	CMP	2.36	2.41	2.46	2.50	2.40	2.43	2.47	2.51	2.44	2.45	2.49	2.53
	LDB	44.3	47.8	52.6	57.8	47.8	50.3	55.1	60.3	51.9	53.2	58.1	63.0
	LWB	40.9	46.3	51.5	57.0	42.7	48.4	53.7	59.3	44.8	50.7	56.1	61.6
95	TCG	24.2	25.9	28.6	31.3	25.6	26.9	29.6	32.1	27.4	28.0	30.6	33.0
	SHG	24.2	22.0	18.8	15.3	25.6	23.9	20.2	16.2	27.4	26.6	22.1	17.2
	TC	23.8	25.5	28.2	30.8	25.1	26.4	29.1	31.7	26.8	27.4	30.0	32.4
	kW	2.92	2.96	3.03	3.08	2.98	3.01	3.07	3.12	3.06	3.07	3.12	3.17
	CMP	2.60	2.64	2.71	2.76	2.64	2.67	2.73	2.78	2.68	2.69	2.75	2.79
	LDB	45.4	48.5	53.3	58.3	48.8	50.9	55.6	60.5	52.9	53.7	58.3	63.2
	LWB	41.4	47.0	52.1	57.5	43.2	49.0	54.2	59.6	45.2	51.2	56.4	61.9
105	TCG	22.1	23.5	25.9	28.6	23.4	24.3	26.8	29.4	25.1	25.4	27.8	30.2
	SHG	22.1	20.3	17.3	14.1	23.4	22.1	18.6	14.9	25.1	24.6	20.5	16.0
	TC	21.8	23.1	25.6	28.2	23.0	23.9	26.4	28.9	24.5	24.8	27.2	29.7
	kW	3.18	3.22	3.29	3.36	3.24	3.26	3.34	3.40	3.32	3.33	3.40	3.45
	CMP	2.87	2.91	2.98	3.05	2.90	2.93	3.00	3.06	2.95	2.96	3.03	3.08
	LDB	46.5	49.3	54.0	58.8	49.8	51.6	56.2	61.0	53.8	54.3	58.7	63.5
	LWB	42.0	47.7	52.8	58.0	43.7	49.6	54.8	60.0	45.7	51.7	56.9	62.2
115	TCG	20.2	21.3	23.5	25.9	21.4	22.0	24.2	26.6	22.8	23.0	25.1	27.4
	SHG	20.2	18.8	15.9	12.9	21.4	20.4	17.1	13.7	22.8	22.6	18.9	14.8
	TC	19.8	20.9	23.1	25.5	21.0	21.6	23.8	26.2	22.3	22.4	24.6	26.9
	kW	3.49	3.53	3.59	3.68	3.55	3.57	3.64	3.72	3.63	3.64	3.71	3.78
	CMP	3.19	3.22	3.29	3.37	3.22	3.24	3.31	3.39	3.27	3.27	3.34	3.41
	LDB	47.7	50.0	54.7	59.5	50.9	52.2	56.8	61.6	54.8	55.1	59.2	63.9
	LWB	42.6	48.4	53.5	58.7	44.2	50.2	55.4	60.6	46.1	52.2	57.4	62.7
125	TCG	18.3	19.1	21.0	23.2	19.3	19.7	21.7	23.9	20.6	20.6	22.4	24.7
	SHG	18.3	17.2	14.5	11.7	19.3	18.7	15.6	12.4	20.6	20.6	17.3	13.5
	TC	17.9	18.7	20.7	22.9	18.9	19.3	21.3	23.5	20.1	20.1	21.9	24.2
	kW	3.81	3.83	3.90	3.99	3.86	3.88	3.95	4.04	3.94	3.94	4.01	4.11
	CMP	3.50	3.53	3.60	3.69	3.54	3.55	3.63	3.71	3.58	3.58	3.65	3.75
	LDB	48.8	50.7	55.4	60.2	52.0	52.9	57.4	62.2	55.8	55.8	59.7	64.3
	LWB	43.2	49.1	54.2	59.4	44.8	50.8	56.0	61.2	46.6	52.7	57.9	63.1

Rating condition.

Not recommended for long-term operation.

*Refer to Systems Index Table on page 21.

NOTES:
1. Direct interpolation is permissible. Do not extrapolate.
2. The SHG is based on 80 F edb temperature of air entering indoor coil.
   Below 80 F edb, subtract (corr factor x cfm) from SHG.
   Above 80 F edb, add (corr factor x cfm) to SHG.
   Correction Factor = 1.10 x (1 – BF) x (edb – 80).

LEGEND

BF — Bypass Factor
CMP — Compressor
Edb — Entering Dry Bulb
Ewb — Entering Wet Bulb
kW — Total Power
LDB — Leaving Dry Bulb
LWB — Leaving Wet Bulb
SHG — Gross Sensible Capacity (1000 Btuh)
TC — Total Net Cooling Capacity (1000 Btuh)
TCG — Gross Cooling Capacity (1000 Btuh)

GROSS COOLING CAPACITIES (cont)

SYSTEM 14* — IN-CEILING CASSETTE SYSTEM; 538A036 WITH 619F036

TEMP (F) AIR ENTERING CONDENSER (Edb)		AIR ENTERING EVAPORATOR — CFM/BF											
		635/0.02				745/0.03				915/0.04			
		Air Entering Evaporator — Ewb (F)											
		57	62	67	72	57	62	67	72	57	62	67	72
55	TCG	37.5	39.3	40.8	41.7	38.9	40.6	41.8	42.6	40.1	41.3	42.5	43.7
	SHG	35.9	30.6	25.3	20.2	38.4	32.7	26.4	20.8	40.1	34.8	27.7	21.7
	TC	37.0	38.8	40.3	41.2	38.3	40.1	41.3	42.0	39.4	40.6	41.8	43.0
	kW	2.08	2.10	2.12	2.13	2.12	2.14	2.16	2.17	2.17	2.18	2.20	2.22
	CMP	1.77	1.79	1.81	1.82	1.78	1.80	1.82	1.83	1.80	1.81	1.83	1.84
	LDB	37.6	44.0	50.3	56.4	41.3	47.2	53.6	59.3	47.3	51.7	57.6	62.6
	LWB	36.2	42.5	48.9	55.8	39.1	45.2	51.7	58.2	42.4	48.6	54.7	60.8
65	TCG	35.1	37.4	39.0	40.9	36.5	38.4	39.6	41.1	38.2	39.1	40.2	41.4
	SHG	33.9	29.4	24.3	19.7	36.4	31.3	25.2	20.1	38.2	33.5	26.5	20.6
	TC	34.6	36.9	38.6	40.4	36.0	37.8	39.0	40.6	37.5	38.4	39.5	40.7
	kW	2.28	2.31	2.33	2.36	2.32	2.34	2.36	2.38	2.37	2.39	2.40	2.42
	CMP	1.97	2.00	2.02	2.05	1.99	2.01	2.03	2.05	2.01	2.02	2.04	2.06
	LDB	37.9	43.6	50.0	55.7	41.5	47.0	53.5	59.0	47.3	51.3	57.4	62.6
	LWB	36.7	42.4	48.8	55.1	39.4	45.3	51.8	58.0	42.4	48.6	54.8	60.9
75	TCG	32.6	34.9	36.8	38.6	34.1	35.9	37.5	39.2	35.8	36.5	38.2	39.4
	SHG	31.9	27.7	23.1	18.7	34.0	29.6	24.2	19.2	35.8	31.9	25.7	19.8
	TC	32.1	34.5	36.3	38.2	33.5	35.4	36.9	38.6	35.1	35.8	37.6	38.8
	kW	2.51	2.54	2.56	2.60	2.55	2.57	2.60	2.63	2.60	2.61	2.64	2.67
	CMP	2.21	2.24	2.26	2.30	2.23	2.25	2.28	2.31	2.25	2.26	2.29	2.31
	LDB	38.3	43.8	50.0	55.8	42.1	47.0	53.2	58.9	47.7	51.2	56.9	62.4
	LWB	37.2	42.8	49.0	55.2	39.7	45.6	51.8	57.9	42.6	48.9	54.8	60.8
85	TCG	30.1	32.5	34.5	36.4	31.6	33.4	35.4	37.2	33.4	33.9	36.2	37.4
	SHG	29.9	26.1	21.8	17.6	31.6	28.0	23.1	18.3	33.4	30.2	24.8	19.0
	TC	29.7	32.0	34.0	36.0	31.1	32.9	34.9	36.7	32.8	33.3	35.6	36.8
	kW	2.74	2.76	2.80	2.83	2.77	2.80	2.83	2.87	2.83	2.84	2.88	2.91
	CMP	2.45	2.47	2.51	2.54	2.46	2.49	2.52	2.56	2.49	2.49	2.54	2.57
	LDB	38.7	44.0	50.0	55.9	42.8	47.1	53.0	58.7	48.1	51.2	56.4	62.1
	LWB	37.7	43.2	49.2	55.3	40.1	45.9	51.8	57.9	42.8	49.2	54.7	60.8
95	TCG	27.4	29.6	31.6	33.4	29.0	30.7	32.6	33.9	30.7	31.6	33.6	34.5
	SHG	27.4	24.1	20.2	16.2	29.0	26.1	21.6	16.8	30.7	28.8	23.4	17.7
	TC	27.0	29.2	31.2	33.0	28.6	30.2	32.1	33.4	30.1	31.0	33.0	33.9
	kW	2.98	3.01	3.05	3.09	3.02	3.05	3.09	3.12	3.08	3.10	3.14	3.17
	CMP	2.70	2.73	2.76	2.80	2.72	2.75	2.78	2.81	2.74	2.76	2.81	2.83
	LDB	39.8	44.7	50.5	56.4	43.8	47.4	53.2	59.2	48.9	50.8	56.4	62.3
	LWB	38.5	43.9	49.7	55.8	40.6	46.4	52.2	58.4	43.2	49.3	54.9	61.1
105	TCG	24.8	26.7	28.7	30.4	26.4	27.7	29.7	31.0	28.1	28.7	30.6	31.6
	SHG	24.8	22.1	18.6	14.8	26.4	24.1	19.9	15.5	28.1	26.8	21.8	16.4
	TC	24.4	26.3	28.4	30.0	25.9	27.3	29.3	30.6	27.6	28.2	30.1	31.0
	kW	3.24	3.26	3.31	3.35	3.28	3.31	3.35	3.39	3.35	3.36	3.41	3.43
	CMP	2.97	2.99	3.03	3.07	2.98	3.01	3.06	3.09	3.02	3.03	3.08	3.11
	LDB	41.2	45.5	51.1	57.1	45.0	48.0	53.6	59.6	49.7	51.1	56.6	62.6
	LWB	39.3	44.8	50.4	56.5	41.2	47.1	52.7	58.8	43.6	49.8	55.3	61.4
115	TCG	22.3	23.9	26.0	27.3	23.7	24.7	26.6	27.9	25.4	25.7	27.6	28.6
	SHG	22.3	20.2	17.0	13.5	23.7	22.0	18.2	14.1	25.4	24.6	20.1	15.1
	TC	21.9	23.5	25.6	27.0	23.3	24.3	26.2	27.5	24.9	25.2	27.1	28.1
	kW	3.51	3.53	3.58	3.62	3.55	3.57	3.62	3.66	3.62	3.63	3.68	3.71
	CMP	3.24	3.26	3.31	3.35	3.26	3.28	3.33	3.37	3.30	3.31	3.36	3.39
	LDB	42.8	46.3	51.7	57.8	46.3	48.8	54.3	60.2	50.7	51.6	57.0	62.8
	LWB	40.1	45.7	51.1	57.2	41.9	47.9	53.4	59.4	44.2	50.3	55.8	61.8
125	TCG	19.9	21.0	22.7	24.5	21.1	21.8	23.7	25.0	22.7	22.7	24.5	25.7
	SHG	19.9	18.2	15.2	12.2	21.1	20.0	16.5	12.8	22.7	22.3	18.3	13.8
	TC	19.6	20.7	22.4	24.2	20.7	21.4	23.3	24.6	22.2	22.3	24.0	25.2
	kW	3.75	3.79	3.83	3.90	3.82	3.84	3.89	3.94	3.90	3.90	3.96	4.00
	CMP	3.49	3.53	3.57	3.64	3.54	3.56	3.61	3.66	3.59	3.59	3.65	3.69
	LDB	44.3	47.4	52.9	58.4	47.8	49.6	54.9	60.7	51.9	52.3	57.4	63.2
	LWB	40.9	46.7	52.2	57.8	42.7	48.7	54.1	59.9	44.7	51.0	56.4	62.2

Rating condition.

Not recommended for long-term operation.

*Refer to Systems Index Table on page 21.

NOTES:
1. Direct interpolation is permissible. Do not extrapolate.
2. The SHG is based on 80 F edb temperature of air entering indoor coil.
   Below 80 F edb, subtract (corr factor x cfm) from SHG.
   Above 80 F edb, add (corr factor x cfm) to SHG.
   Correction Factor = 1.10 x (1 – BF) x (edb – 80).

LEGEND

BF — Bypass Factor
CMP — Compressor
Edb — Entering Dry Bulb
Ewb — Entering Wet Bulb
kW — Total Power
LDB — Leaving Dry Bulb
LWB — Leaving Wet Bulb
SHG — Gross Sensible Capacity (1000 Btuh)
TC — Total Net Cooling Capacity (1000 Btuh)
TCG — Gross Cooling Capacity (1000 Btuh)

ELECTRICAL DATA

538A CONDENSING UNITS

UNIT SIZE 538A	V-PH-Hz	OPERATING VOLTAGE MINIMUM*	OPERATING VOLTAGE MAXIMUM*	COMP RLA	COMP FLA	FAN FLA	POWER		
							MCA	MOCP	FLA
018	208/230-1-60	187	254	8.0	49.0	0.7	10.7	15	8.70
024				12.9	62.5	0.7	16.8	25	13.60
030				15.0	76.0	0.7	19.5	30	15.70
036	208/230-1-60	187	254	17.9	88.0	0.7	23.1	40	18.60
	208/230-3-60	187	254	11.4	77.0	0.7	15.0	25	12.10
	460-3-60	414	508	5.7	38.5	0.4	7.5	15	6.10
048	208/230-1-60	187	254	26.4	129.0	1.45	34.5	60	27.85
	208/230-3-60	187	254	15.0	99.0	1.45	20.2	35	16.45
	460-3-60	414	508	8.2	49.5	0.8	11.1	15	9.00
060	208/230-1-60	187	254	28.9	165.0	1.45	36.6	60	30.35
	208/230-3-60	187	254	16.0	125.0	1.45	21.5	35	17.45
	460-3-60	414	508	8.0	62.5	0.8	10.8	15	8.80

538C CONDENSING UNITS†

UNIT 538C	V-PH-Hz	OPERATING VOLTAGE MINIMUM*	OPERATING VOLTAGE MAXIMUM*	COMP RLA	COMP LRA	FAN FLA	POWER		
							MCA**	MOCP**	FLA
009	115-1-60	104	127	7.6	46.5	0.76	12.1	15	12.86
012	208/230-1-60	187	253	5.5	30.0	0.35	8.5	15	8.85

FAN COIL UNITS

UNIT	V-PH-Hz	OPERATING VOLTAGE MINIMUM*	OPERATING VOLTAGE MAXIMUM*	FAN		POWER			MIN WIRE SIZE
				FLA	MOTOR POWER	MCA	MOCP	FLA	
619E009	115-1-60	104	127	0.41	34 W	††	††	0.41	14
619E012	208/230-1-60	187	253	0.23	35 W	††	††	0.23	14
619E018	208/230-1-60	187	253	0.53	44 W	0.66	15	0.53	14
619E024	208/230-1-60	187	253	0.53	49 W	0.66	15	0.53	14
619C018,024‖	208/230-1-60	187	253	0.50	1/16 hp	0.63	15	0.50	14
619C036	208/230-1-60	187	253	1.30	1/6 hp	1.60	15	1.30	14
619C048	208/230-1-60	187	253	1.10 0.50	1/6 hp 1/16 hp	2.00	15	1.60	14
619C060	208/230-1-60	187	253	1.30 1.30	1/6 hp 1/6 hp	3.30	15	2.60	14
619F024	208/230-1-60	187	253	0.44	1/16 hp	0.55	15	0.44	14
619F036	208/230-1-60	187	253	0.44 0.44	1/16 hp 1/16 hp	1.10	15	0.88	14

LEGEND

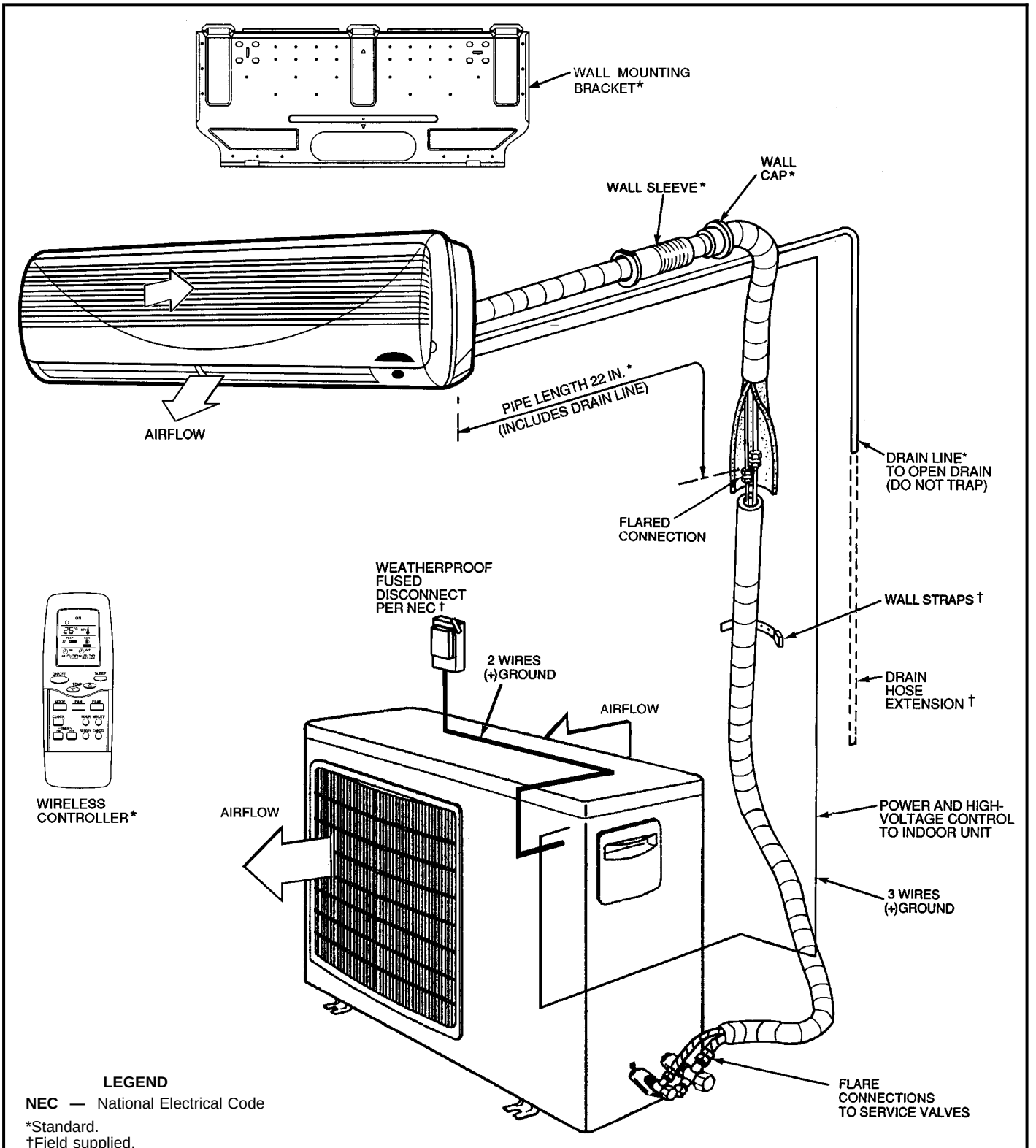
COMP — Compressor
FLA — Full Load Amps
HACR — Heating, Air Conditioning, and Refrigeration
LRA — Locked Rotor Amps
MCA — Minimum Circuit Amps
MOCP — Maximum Overcurrent Protection Amps (Fuse or HACR Circuit Breaker)
RLA — Rated Load Amps

*Permissible limits of the voltage range at which units will operate satisfactorily.

†These units can only be used with 619E high wall fan coil units.
**MCA and MOCP are for both indoor and outdoor units.
††Indoor fan coil must be connected to outdoor unit. See outdoor unit for required data.
‖ The 619C018 fan coil is a 619C024 fan coil, but uses a different motor speed fan tap plug than the 619C024. Electrical data is identical for both units.

NOTE: Refer to 538B,D Series Heat Pump Product Data literature for electrical data for heat pump fan coils matched with cooling-only condensing units.

TYPICAL INSTALLATION — HIGH WALL SYSTEMS, 9,000 AND 12,000 BTUH



LEGEND

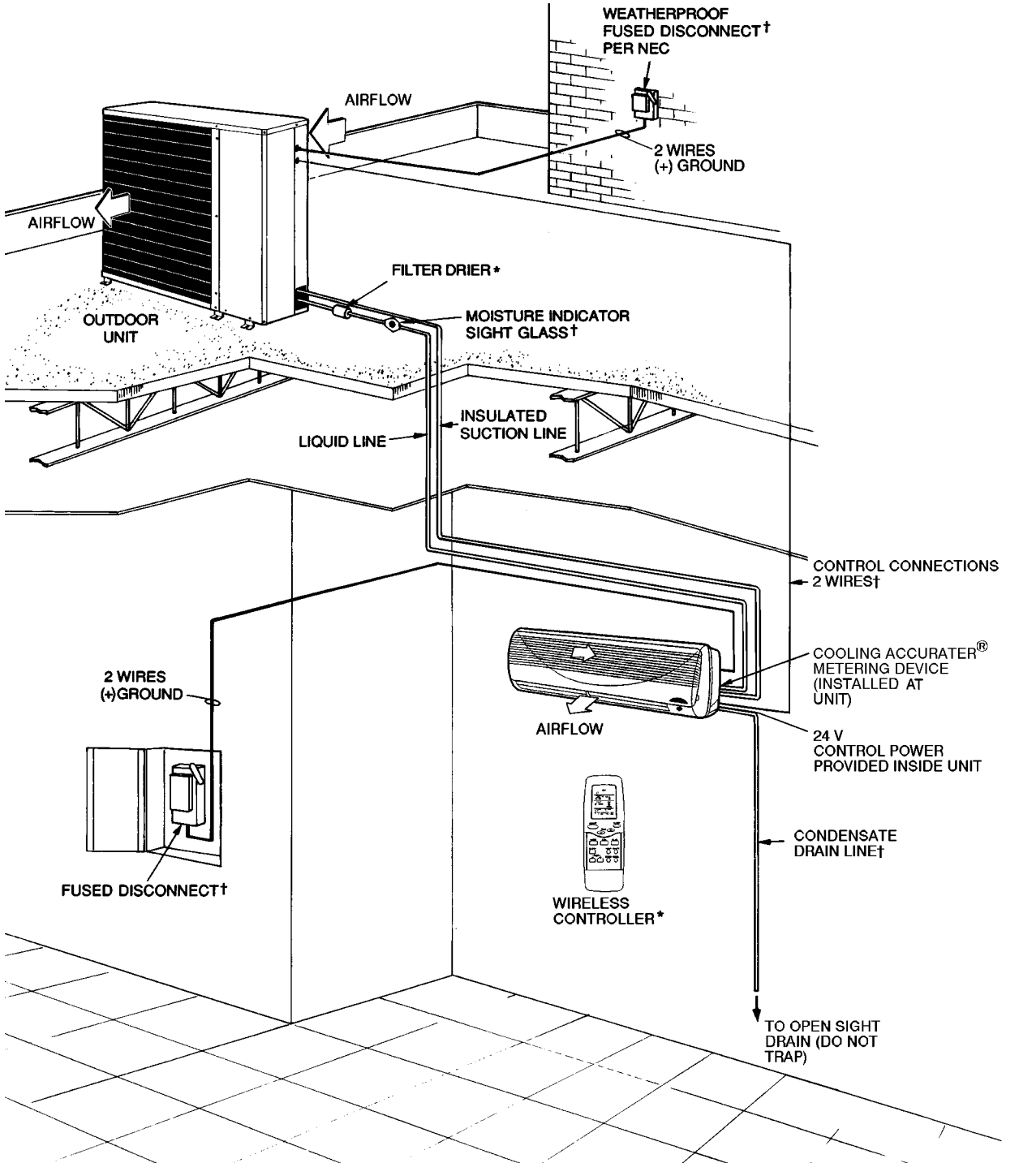
NEC — National Electrical Code

*Standard.
†Field supplied.

NOTES:

1. All piping must follow standard refrigerant techniques.
2. Do not install a filter drier in mixed phase liquid line.
3. All wiring must comply with applicable local and national codes.
4. Capillary tube expansion device (cooling-only systems only) is located in the outdoor unit. Both refrigerant lines must be insulated.
5. Wiring and piping shown are general points-of-connection guides only and are not intended to include all details for a specific installation.
6. Insulate condensate line drain if installed in a conditioned space.

TYPICAL INSTALLATION — HIGH WALL SYSTEMS, 18,000 AND 24,000 BTUH



LEGEND

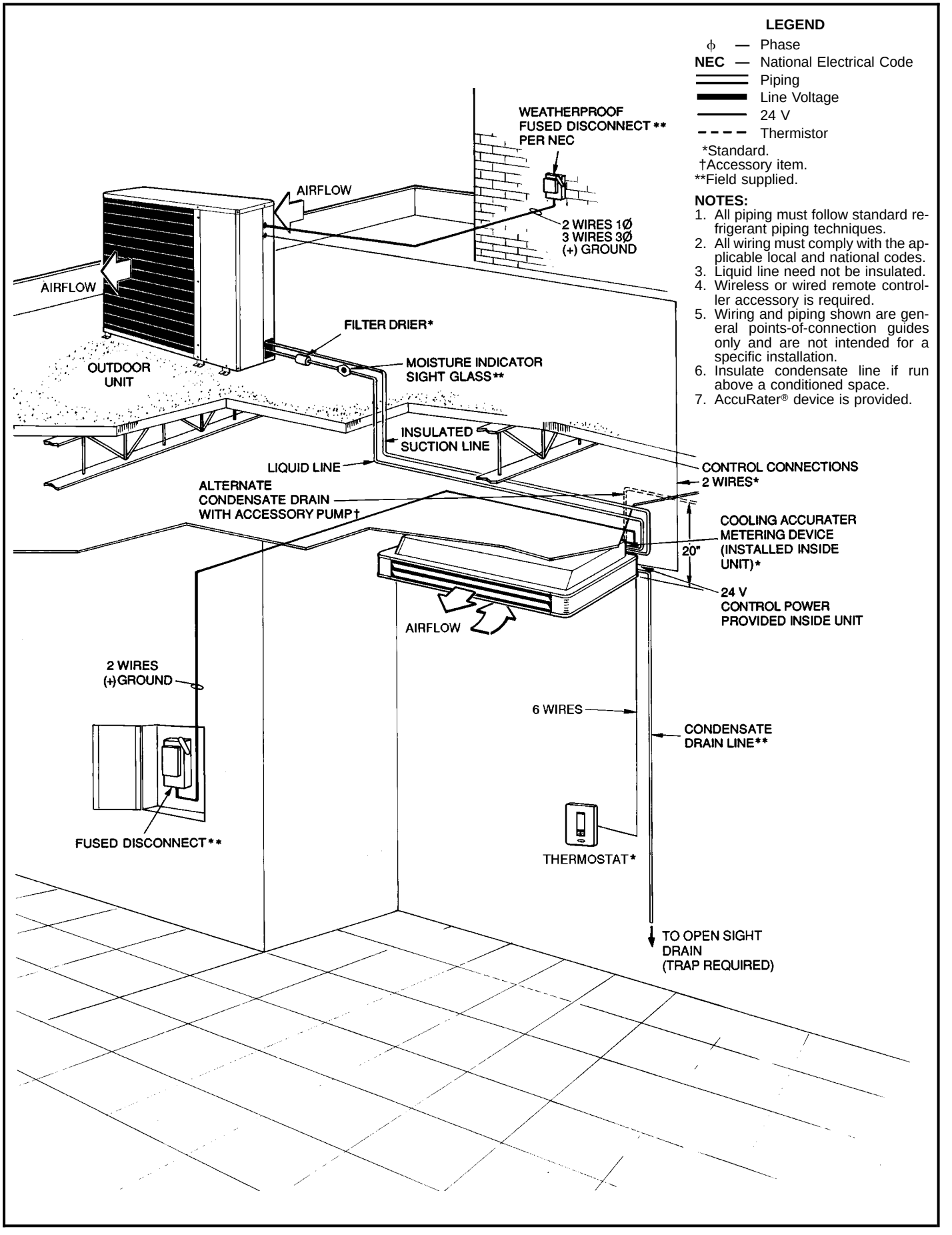
NEC — National Electrical Code
Piping
Line Voltage
24 V
Thermistor

*Standard.
†Field supplied.

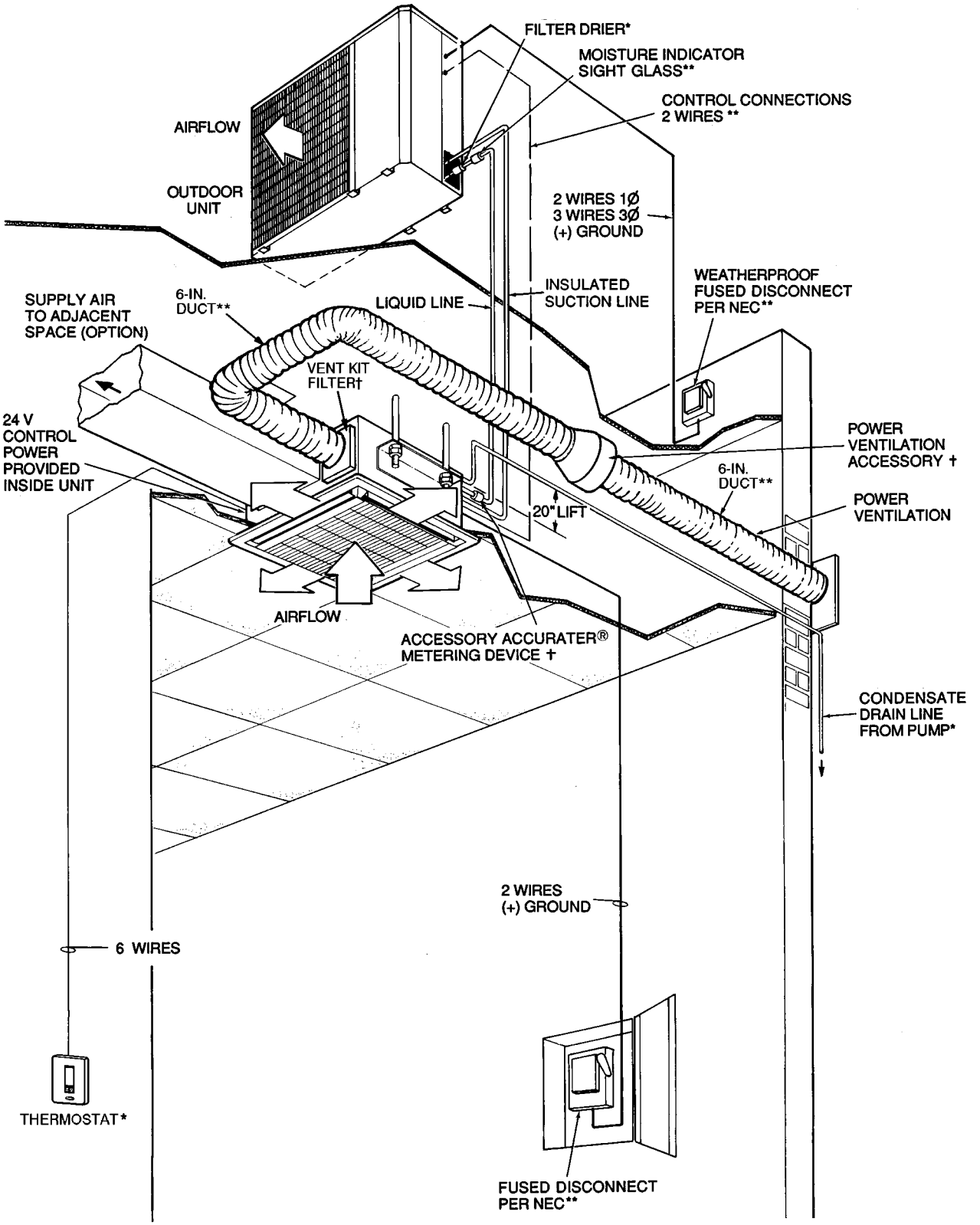
NOTES:

1. All piping must follow standard refrigerant piping techniques.
2. All wiring must comply with the applicable local and national codes.
3. Liquid line need not be insulated.
4. Wiring and piping shown are general points-of-connection guides only and are not intended for a specific installation.
5. Insulate condensate drain if installed in a conditioned space.

TYPICAL INSTALLATION — CEILING-SUSPENDED SYSTEMS


LEGEND
ϕ — Phase
NEC — National Electrical Code
Piping
Line Voltage
24 V
Thermistor
*Standard.
†Accessory item.
**Field supplied.
NOTES:
1. All piping must follow standard refrigerant piping techniques.
2. All wiring must comply with the applicable local and national codes.
3. Liquid line need not be insulated.
4. Wireless or wired remote controller accessory is required.
5. Wiring and piping shown are general points-of-connection guides only and are not intended for a specific installation.
6. Insulate condensate line if run above a conditioned space.
7. AccuRater® device is provided.
WEATHERPROOF FUSED DISCONNECT ** PER NEC
AIRFLOW
2 WIRES 1Ø 3 WIRES 3Ø (+) GROUND
AIRFLOW
FILTER DRIER*
OUTDOOR UNIT
MOISTURE INDICATOR SIGHT GLASS**
INSULATED SUCTION LINE
LIQUID LINE
CONTROL CONNECTIONS 2 WIRES*
ALTERNATE CONDENSATE DRAIN WITH ACCESSORY PUMP†
COOLING ACCURATER METERING DEVICE (INSTALLED INSIDE UNIT)*
20"
24 V CONTROL POWER PROVIDED INSIDE UNIT
AIRFLOW
2 WIRES (+) GROUND
6 WIRES
CONDENSATE DRAIN LINE**
FUSED DISCONNECT**
THERMOSTAT*
TO OPEN SIGHT DRAIN (TRAP REQUIRED)

TYPICAL INSTALLATION — IN-CEILING CASSETTE SYSTEMS



LEGEND

- ϕ — Phase
- NEC — National Electrical Code
- Piping
- Line Voltage
- 24 V

*Standard.
†Accessory item.
**Field supplied.

NOTES:

1. All piping must follow standard refrigerant techniques.
2. All wiring must comply with applicable local and national codes.
3. Liquid line need not be insulated.
4. Cooling AccuRater kit is standard.
5. Wiring and piping shown are general points-of-connection guides only and are not intended for a specific installation.
6. Insulate condensate line if installed in a conditioned space.

APPLICATION DATA

1. **Unit selection**

   Select equipment to either match or be slightly less than anticipated peak load. This provides better humidity control, fewer unit cycles, and less part-load operation.

   For units used in spaces with high sensible loads, base equipment selection on unit sensible load, not on total anticipated load. Adjust for anticipated room wet bulb temperature to avoid undersizing equipment.

   When selecting equipment which has outdoor air introduced into the unit, determine the mix conditions of room air and outdoor air at design conditions. The cooling capacity tables in this literature are based on 80 F edb. Adjust for actual dry-bulb and wet-bulb conditions with the required outdoor air to select the proper equipment.

2. **Unit combinations and coil mixed matches**

   The 538C and 538A units are the only units approved for use with the 619E, 619C, and 619F fan coil units. The 538C and 538A units can also be used with other fan coil units.

   Mixed matches of indoor-fan coil capacity more than one size larger than the outdoor condensing unit capacity may result in inadequate indoor comfort. Do not select mixed matches where the indoor-fan coil capacity is more than one size larger than the outdoor condensing unit capacity unless specifically indicated in this data. Heat pump fan coils can be used with cooling-only condensing units to provide electric heat capability.

3. **Unit mounting (outdoor)**

   a. **Unit leveling —** For reliable operation, units should be level in all planes.

   b. **Clearance —** Adequate clearance must be provided for airflow. See dimensional drawings for proper clearances. The condensing units are designed for free-blow application. Air inlets and outlets should not be restricted. Outdoor fan external static pressure available is less than 0.1 in. wg.

   c. **Unit location —** Cooling units may be stacked 2 high. Units may be wall mounted, pad mounted at ground level, roof mounted, or mounted on or under a deck or patio. Be sure water from roof does not drain directly onto the unit.

      See your factory representative for drawings to construct stacking rails or wall mounting brackets.

      If 538A condensing units are being mounted near a wall, the condenser air should discharge toward the wall. This will provide inherent coil protection and the best possible sound and airflow performance. The 538C units should be mounted with fan discharge pointing away from the wall.

4. **Unit mounting (indoor)**

   a. **Unit leveling —** For reliable operation, units should be level in all planes. The 619C ceiling-suspended fan coils may have a slight pitch, but only toward the drain connection.

   b. **Clearance —** Provide adequate clearance for airflow. The unit return and discharge should not be obstructed by furniture, curtains, or anything which may cause unit short cycling or air recirculation. See base unit dimensional drawings on pages 13-19 for required clearances.

   c. **Unit location —** When selecting unit location, select a location which will provide the best air circulation for the room.

      1) 619E HIGH WALL UNITS — These units should be positioned as high as possible on the wall for best air circulation. Allow adequate clearances above the unit for servicing (removing unit covers). Place the unit in the middle of the wall selected (if possible). Select an outside wall if available to make piping easier, and place the unit so it faces the normal location of room occupants.
      2) 619C CEILING-SUSPENDED UNITS — These units should be mounted near the ceiling and against a wall. The unit should be centered in the room for best performance. Locating the unit on an outside wall will make piping easier, but units can also be mounted away from a wall if desired. (If the unit is mounted away from a wall, the rear panel of the unit may need a field-supplied trim strip for improved appearance.) Locate the fan coil return over an area which is not normally occupied for quietest operation. Do not block air discharge for a minimum of 15 ft to prevent dumping of cold air and drafts.
      3) 619F IN-CEILING CASSETTE UNITS — These units should be mounted in the ceiling, preferably near the center of the room. If the unit must be mounted near a wall, close the air discharge on the blocked side(s). (Up to 2 sides may be blocked.) Locate the control box away from the blocked side(s).

5. **Mounting template**

   The 619C and 619E fan coil units are furnished with mounting templates or mounting plates to mark the location of the mounting brackets, wiring, and refrigeration line hole locations. In addition, the 619C units indicate the location of ventilation-air connections.

6. **Support**

   Adequate support must be provided to support the weight of all fan coils. Refer to the Specifications section on page 6 for fan coil weights, and the base unit dimensional drawings on pages 13-19 for the location of mounting brackets.

7. **System operating conditions**

Operating limits:

OUTDOOR CONDENSING UNITS

CONDITION	538A	538C
Maximum Cooling Ambient (F)	125	125
Minimum Cooling Ambient (F) (without accessory low-ambient kit)	55	55
Minimum Cooling Ambient (F) (with accessory low-ambient kit)	–20	–20
Minimum Cooling Return-Air Temperature (F)	55	55
Maximum Cooling Return-Air Temperature (F)	95	95
Saturated Suction Temperature Range		
Minimum (F)	–15	–15
Maximum (F)	55	55
Saturated Condensing Temperature Range		
Minimum (F)	80	85
Maximum (F)	150	150
Maximum Compressor Discharge Temperature (F)	275	275
Minimum Discharge Superheat (F)	60	60

FAN COIL UNITS

CONDITION	619C	619E	619F
Maximum Room Temperature (F)	84	84	95
Minimum Room Temperature (F)	64	64	55
Maximum Return Air (F)			
Dry-Bulb	85	85	85
Wet-Bulb	72	72	72
Maximum Saturated Suction Temperature (F)	55	55	55
Minimum Saturated Suction Temperature (F)	27	27	27

8. **Low-ambient operation**

   Units can operate in cooling down to 55 F under all conditions without a low-ambient kit.

   Units equipped with accessory low-ambient kits should also be equipped with accessory wind baffle, crankcase heater, and winter start kit.

   a. **Winter start —** The use of a winter start control may extend the operation range (generally to 35 F or 40 F) without addition of the low-ambient kit. Winter start bypasses the low-pressure switch for 3 minutes, and is not required on 538C units.

   b. **Crankcase heater —** Scroll compressor units with low-ambient control should be equipped with crankcase heaters to prevent refrigerant migration during compressor off cycle.

9. **Metering devices**

   a. **538C units —** The 538C units have capillary tubes for refrigerant metering located in the outdoor condensing unit. These units may only be used with 619E fan coils of the same size.

   b. **538A units —** The 538A units use a piston-type metering device located in the indoor unit.

   NOTE: All duct-free split systems use Type ‘‘B’’ Chattleff style AccuRater® pistons. DO NOT mix Type ‘‘A’’ and Type ‘‘B’’ pistons. See Long-Lines Applications section (12.b) on page 43 for changes in piston sizes due to long lines.

10. **Drain connections**

    Install drains to meet local sanitation codes. If adequate gravity drainage cannot be provided, unit should be equipped with accessory condensate pump. High wall fan coil unit condensate pumps have a 1 to 10 ft lift (009 size) or 3 to 25 ft lift (012-024 sizes). All other fan coil units have a lift capability of 20 in. above the condensate pan level.

    See base unit dimensional drawings on pages 13-19 for drain locations and sizes.

    NOTE: High wall fan coil units have internal condensate traps. All other fan coil units require a field-supplied external condensate trap.

    Drain connections may be routed through alternate locations on most fan coils. See base unit dimensional drawings on pages 13-19 for possible alternate locations.

11. **Electric heat —** The in-ceiling and ceiling-suspended systems can provide electric heat by using the heat pump version of the fan coil unit. The DIP switch must be reconfigured at the jobsite for proper operation. Also, any unit with a condensate pump must have a jumper wire installed between terminals O and Y on the low-voltage terminal strip. Refer to the heat pump Product Data literature for appropriate fan coil electrical data.

12. **Refrigerant lines**

    a. **General refrigerant line sizing:**

    - All charges, line sizing, and capacities are based on runs of 25 ft. For runs over 25 ft (538A only), consult long-lines section on page 43 for proper line sizing, charge, and AccuRater refrigerant metering device sizing.

    NOTE: For runs less than 25 ft, some of the charge may need to be removed to obtain the correct system superheat. The minimum line length should be 8 ft.

MAXIMUM LINE LENGTHS

UNIT	MAXIMUM EQUIVALENT FT	MAXIMUM LIFT— FAN COIL BELOW CONDENSING UNIT	MAXIMUM LIFT— FAN COIL ABOVE CONDENSING UNIT
538A	200	150	65
538C	35	30	16

- Refrigerant lines should not be buried in the ground. If it is necessary to bury the lines, not more than 36 in. should be buried. Provide a minimum 6-in. vertical rise to the service valves to prevent refrigerant migration.
- The vapor line must be insulated. Use a minimum of ½-in. thick insulation. Closed-cell insulation is recommended in all long-line applications.
- Special consideration should be given to isolating interconnecting tubing from the building structure. Isolate the tubing so that vibration or noise is not transmitted into the structure.

1) 538C UNITS

   a) The 538C units are shipped with a full charge of R-22 refrigerant. Check the charge using the superheat method. Since all refrigerant lines are on the low side of the system, it is not normally necessary to add or remove charge.

   b) The 538C units have mixed-phase refrigerant flow in the liquid line. **DO NOT install a filter drier in the liquid line. The liquid line must be insulated.**

   c) No line size changes should be made on 538C units.

2) 538A UNITS

   a) The 538A units are shipped with a full charge of R-22 refrigerant. Charge is based on fan coil with smallest charge and 25 ft of line. See System Piston Guide and Refrigerant Charges table on page 43 for system charges. Add additional charge by weight as necessary and check the charge with a superheat calculator.

   b) For the 538A units, install the filter drier provided with the unit in the liquid line. Use of a field-supplied moisture indicator is also recommended.

b. **Long-lines applications, 538A units:**

1) Liquid lines on all 538A units should be ⅜ in. only. DO NOT resize liquid lines for additional length.

2) When sizing vapor line, determine line length by finding equivalent ft of pipe. Equivalent line lengths equal the linear length (measured length) of the interconnecting vapor tubing plus losses due to elbows (see Fitting Loss in Equivalent Ft For Elbows table on page 44). If the number of elbows is not yet known, assume 50% additional length for equivalent length. In determining line size, be sure oil can be properly returned to the compressor. For line lengths from 25 to 49 ft, no special piping requirements are normally required. Adjust charge to required amount by adding charge per Step g) on page 45 and checking superheat.

3) For line lengths over 50 ft:

a) A crankcase heater should be added to scroll compressor units (all non-scroll compressor units have crankcase heaters as standard). Crankcase heaters help prevent refrigerant migration to the compressor during the off cycle.

b) Any time the equivalent line length is over 100 ft, a liquid line solenoid must be used. A liquid line solenoid may also be required for vertical lift applications over 25 ft. See Step f) on page 45.

c) A field fabricated accessory wind baffle is recommended.

d) The Effective Capacity Loss table on page 44 provides the estimated percentage of nominal cooling capacity losses based on the standard required vapor line size versus what is selected for long-line applications.

Select the desired vapor line size from the Effective Capacity Loss table based on equivalent ft and desired vapor line size.

Subtract the nominal percentage loss from the unit cooling capacities for the given indoor and outdoor combination.

SYSTEM PISTON GUIDE AND REFRIGERANT CHARGES

SYSTEM TYPE	INDOOR UNIT	OUTDOOR UNIT	PISTON REQUIRED (Size)	CHARGE (Lb)*
High Wall	619E009	538C009	None†	1.5
	619E012	538C012	None†	1.8
	619E018	538A018	49	4.6
	619E024	538A024	57	5.3
Ceiling Suspended	619C018**	538A018	53	3.7
	619C024	538A024	57	5.5††
	619C036	538A030	65	5.6
	619C036	538A036	70	5.4
	619C048	538A048	84	7.4
	619C060	538A060	93	13.6
Ceiling Suspended With Electric Heat	619C0180W0**	538A018	52	3.6
	619C0240W0	538A024	53	6.2††
	619C0360W0	538A030	63	5.6
	619C0360W0	538A036	65	5.6
	619C0480W0	538A048	84	7.4
	619C0600W0	538A060	93	13.6
In-Ceiling Cassette	619F024	538A018	52	4.8††
	619F036	538A024	62	5.2††
	619F036	538A030	63	5.2
	619F036	538A036	65	6.0††
In-Ceiling Cassette With Electric Heat	619F0240W0	538A018	52	5.8††
	619F0360W0	538A024	62	4.8
	619F0360W0	538A030	63	5.2
	619F0480W0	538A036	67	5.8

*Charge based on 25 ft of interconnecting tubing. Charge may need to be added for longer tubing runs or when used with certain fan coils. Check unit nameplate for required charge.
†Capillary tube located in the outdoor unit.
**The 018 size unit shown is a reconfigured 024 size unit. Refer to unit Installation Instructions.
††Combination may require additional charge.

NOTES:
1. All pistons are Chattleff ‘‘B’’ type.
2. All cooling units have a full factory charge.
3. Service valves are front-seating type.

FITTING LOSS IN EQUIVALENT FT FOR ELBOWS

TUBE SIZE O.D. (in.)	90-DEGREE SHORT RADIUS	90-DEGREE LONG RADIUS	45-DEGREE SHORT RADIUS
⅝	1.6	1.0	0.8
¾	1.8	1.2	0.9
⅞	2.0	1.4	1.0
1⅛	2.6	1.7	1.3

e) Changes in piston size — The metering device for a long-line application must be adjusted to compensate for the frictional losses due to the long refrigerant lines, refrigerant line accessories, and indoor coil above or below the outdoor unit. The AccuRater® refrigerant metering device piston may need to be changed to provide this adjustment. The AccuRater piston should be changed for the indoor unit depending upon system configuration and line length. Use the Change in Indoor Unit Piston Size for Elevation table on next page to determine correct AccuRater piston size. The standard piston size is shown in the System Piston Guide and Refrigerant Charges table on page 43.

Horizontal configuration — If the total equivalent horizontal length is 100 ft or longer, the indoor piston must be increased one full piston size, in addition to the charge change in Step g), page 45. If exact size is not available, use next smaller size per Chattleff Type B Common Piston Sizes table.

Elevated configuration — After finding the appropriate change in piston size, add or subtract the change from the original piston size number. If the piston size is decreased, round down to the next common piston size. If the piston size is increased, round the new piston size up to the next common piston size.

CHATTLEFF TYPE B COMMON PISTON SIZES

PISTON SIZE	PISTON SIZE	PISTON SIZE
32	53	80
33	55	81
35	57	82
36	59	84
37	61	86
38	62	88
39	63	89
40	65	90
41	67	92
42	68	93
43	70	96
45	71	98
47	73	101
49	74	104
51	76	—
52	78	—

EFFECTIVE CAPACITY LOSS

NOMINAL UNIT SIZE* (Btuh)	STANDARD VAPOR LINE (in.)	LONG-LINE VAPOR LINE (in.)†	PERCENT COOLING CAPACITY LOSS						
			50 ft	75 ft	100 ft	125 ft	150 ft	175 ft	200 ft
18,000	⅝	⅝	2	4	6	7	9	10	12
	⅝	¾	0	0	1	2	3	4	6
24,000	⅝	⅝	4	6	9	11	13	15	**
	⅝	¾	0	1	2	3	4	5	6
30,000	¾	¾	2	3	4	5	7	8	10
	¾	⅞	0	2	3	4	5	6	7
36,000	⅞	⅞	2	4	6	7	9	11	13
	⅞	⅞	0	2	3	4	5	6	7
48,000	⅞	⅞	4	6	9	11	13	15	**
	⅞	⅞	3	4	5	7	8	10	13
	⅞	1⅛	1	2	3	4	5	6	7
60,000	1⅛	1⅛	4	7	9	11	13	15	**
	1⅛	1⅛	2	3	5	6	8	9	11

*Nominal cooling capacity of the unit being specified.
†The vapor line diameter that may be selected for long-line application. If smaller vapor lines than are specified in the table are selected, a larger capacity loss will occur. If larger vapor lines are selected, refrigerant oil return will be impaired due to velocity loss.
**Not recommended due to excessive loss of capacity.

CHANGE IN INDOOR UNIT PISTON SIZE FOR ELEVATION

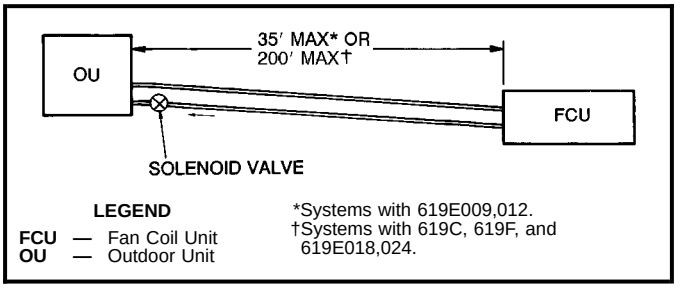
OUTDOOR UNIT ABOVE INDOOR UNIT	
Ft	**Piston Change**
0-25	0
26-50	−3
51-75	−5
76-100	−7
101-125	−9
126-150	−10
INDOOR UNIT ABOVE OUTDOOR UNIT	
Ft	**Piston Change**
0-25	0
26-65	+4

f) Liquid line solenoid and tubing configuration — The solenoid has a flow arrow stamped on the valve body. When the valve is closed (not energized) and pressure is applied in the direction of the flow arrow, complete shut off will occur. If pressure is applied against the direction of the arrow, leakage through the valve will occur. When determining the proper location for a solenoid in a system liquid line, consider both flow direction and location of the valve in the system. See the diagram below for proper location, and install as follows:

Horizontal configuration (see figure below) —

- Install a liquid line solenoid valve within 2 ft of the fan coil with the flow arrow pointing toward the indoor unit if equivalent ft of piping is 100 ft or more.
- Slope the vapor line toward the indoor unit to provide for refrigerant migration protection during the off cycle due to temperature differences caused by slight elevation changes between indoor and outdoor units.

NOTE: When installing a liquid line solenoid, a low-voltage transformer may be required.



Horizontal Configuration

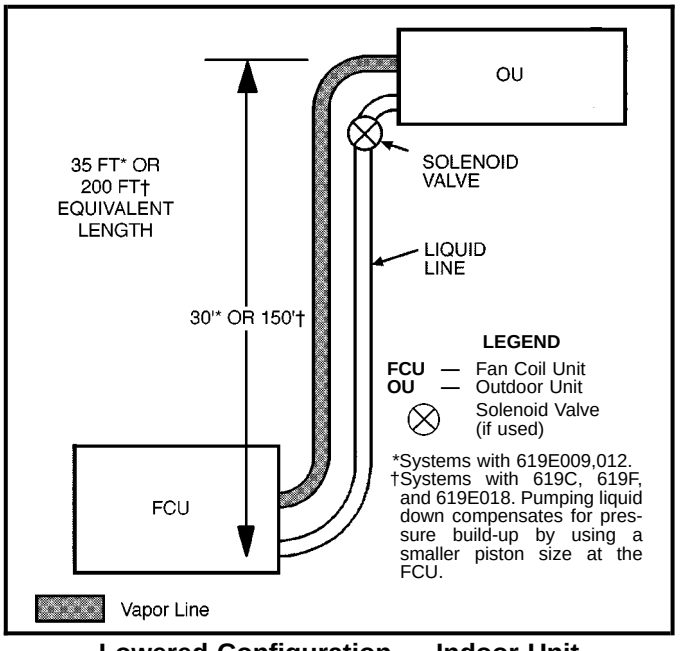
Elevated configuration — Indoor unit installed above the outdoor unit (see figure at right):

- If there is over 25 ft of lift, a solenoid valve is required in the liquid line.
- The maximum elevation difference is 65 ft, and the maximum equivalent ft of piping is 200.
- Install an inverted trap in the vapor line. The top of the trap must be above the top of the fan coil. This prevents the refrigerant from collecting in the vapor line.

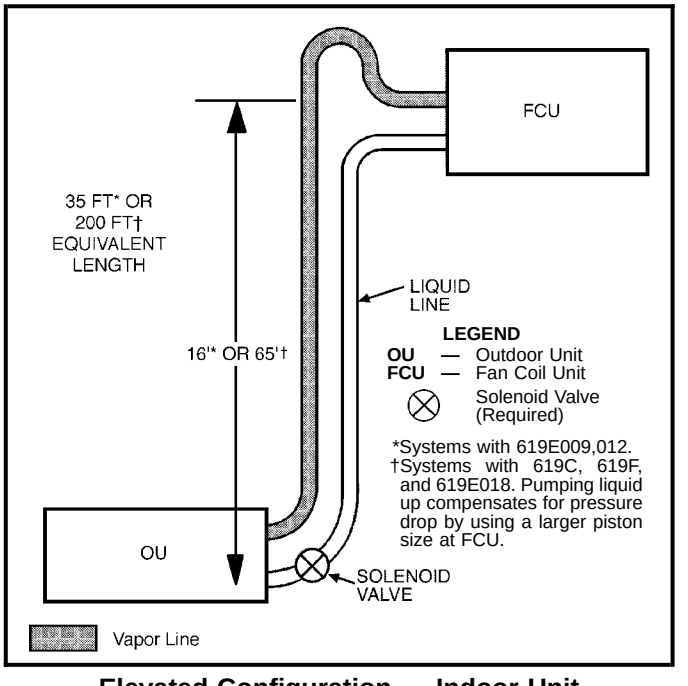
Lowered configuration — Indoor unit installed below the outdoor unit (see figure below):

- For lines shorter than 100 ft, no solenoid valve is required in the liquid line. For lines over 100 ft, install a solenoid valve in the liquid line.
- The maximum elevation difference is 150 ft, and the maximum equivalent ft is 200.

g) Additional charge — The unit should be charged by weighing in the appropriate charge. Add charge based on the actual length of line which is over 15 ft of liquid line. Add 0.58 oz of refrigerant per 1 ft increase over the 15 ft line to the charge listed in System Piston Guide and Refrigerant Charges table on page 43.


OU
SOLENOID VALVE
35 FT* OR 200 FT† EQUIVALENT LENGTH
LIQUID LINE
30'* OR 150'†
FCU
LEGEND
FCU — Fan Coil Unit
OU — Outdoor Unit
Solenoid Valve (if used)
*Systems with 619E009,012.
†Systems with 619C, 619F, and 619E018. Pumping liquid down compensates for pressure build-up by using a smaller piston size at the FCU.
Vapor Line

Lowered Configuration — Indoor Unit Installed Below the Outdoor Unit


FCU
35 FT* OR 200 FT† EQUIVALENT LENGTH
LIQUID LINE
16'* OR 65'†
LEGEND
OU — Outdoor Unit
FCU — Fan Coil Unit
Solenoid Valve (Required)
*Systems with 619E009,012.
†Systems with 619C, 619F, and 619E018. Pumping liquid up compensates for pressure drop by using a larger piston size at FCU.
OU
SOLENOID VALVE
Vapor Line

Elevated Configuration — Indoor Unit Installed Above the Outdoor Unit

13. **Controls**

a. **Wired 24-v controls (619C, 619F)**

1) A 24-v thermostat is supplied for operation of all in-ceiling and cassette systems.
2) Controller can only operate one unit, and a controller is required for each unit.
3) The control must be located in the space being conditioned.

b. **Wireless remote controller (619E**)

1) A wireless remote controller is supplied for system operation of all high wall units.
2) Each battery-operated wireless (infrared) remote controller may be used to control more than one unit.
3) The wireless remote controller has a range of 20 ft.
4) The unit is equipped with an emergency switch which allows operation if the remote controller malfunctions or is misplaced.
5) Because the controller uses infrared communication, all of the following must be true for the controller to work properly:

- The power must be on to the fan coil unit.
- The batteries in the controller must be good.
- The controller must be within range of and pointed directly at the unit.
- The unit's 3-position switch must be set in the Remote position.

14. **Wiring**

Use only copper wires from the disconnect to the unit terminal block. Aluminum and copper-clad aluminum wires are not acceptable.

All duct-free split systems provide 24 v power for the outdoor unit from the indoor unit except the 619E009 and 012 systems, which provide line voltage control.

All other fan coil types should have a separate disconnect for indoor and outdoor units.

15. **Air throw**

Refer to Air Throw Data table below for system air throw capabilities.

AIR THROW DATA

FAN COIL UNIT

SYSTEM TYPE	SIZE	HIGH SPEED AIRFLOW (CFM)	APPROXIMATE AIR THROW (FT)
High Wall	009	240	17
	012	260	20
	018	550	32
	024	570	35
Ceiling Suspended	018	500	25
	024	600	30
	030,036	840	40
	048	1200	45
	060	1600	45
In-Ceiling Cassette	018	525	22
	024	915	20
	030	915	20
	036	915	20

NOTE: Air throw is with unit mounted with typical clearances in a 10-ft high room.

16. **Fresh air/ducting**

a. The 619C ceiling-suspended fan coil units may bring in up to 30% fresh air. The percentage of air allowable is calculated based on the unit high speed cfm. Air quantities above this level may exceed compressor maximum saturated suction temperatures. A power ventilation kit is available to overcome ventilation duct static. See Power Ventilation Kit Available Static Pressure table below.

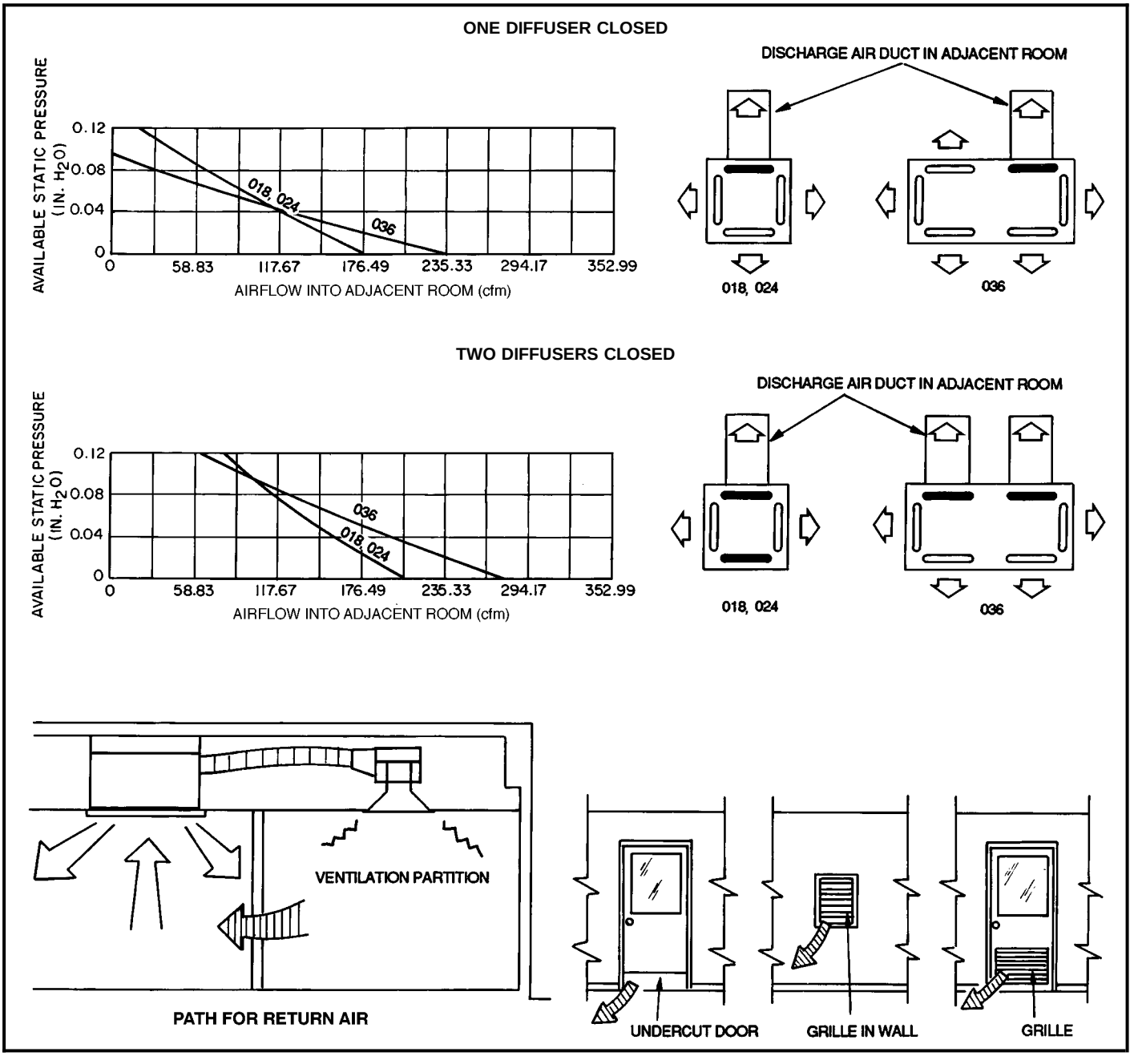
b. The 619F in-ceiling cassette fan coil units may bring in up to 10% fresh air. This 10% maximum should not be exceeded. A power ventilation kit is available to overcome ventilation duct static. See Power Ventilation Kit Available Static table below.

c. The 619F in-ceiling cassette fan coil units may have an extension duct installed. See Static Capability and Design Considerations figures on page 47.

POWER VENTILATION KIT AVAILABLE STATIC PRESSURE

FAN HP	WATTS	RPM	VOLTAGE	CFM AT STATIC PRESSURE (in. wg)								DUCT DIA. (in.)	SONES
				0	⅛	¼	⅜	½	¾	1	1½		
1/15	150	2700	208/230	370	335	318	298	256	219	189	112	6	4.0

SONE — A subjective unit of loudness, equal to the loudness of a pure tone having a frequency of 1,000 Hz at 40 decibels above the listener's threshold of audibility. This is for comparative purposes only.



Static Capability and Design Considerations, 619F Cassette Systems

17. **Sound data**

CONDENSING UNIT SOUND RATINGS

UNIT	SOUND RATING (Decibels)	FREE FIELD dBA*
538C009	65	55.7
538C012	65	55.7
538A018	70	59.9
538A024	68	57.9
538A030	68	57.9
538A036	68	57.9
538A048	72	61.9
538A060	72	61.9

LEGEND

dBA — Decibels on the A Scale

*Free field is a rating with no reflective surfaces near the unit. Data sound pressure is measured at 1 m from the unit. See Sound Power Data Octave Bands table for more information.

NOTE: Units rated in accordance with ARI (Air Conditioning & Refrigeration Institute) Standard 270.

APPLICATION DATA (cont)

SOUND POWER DATA OCTAVE BANDS — A WEIGHTED

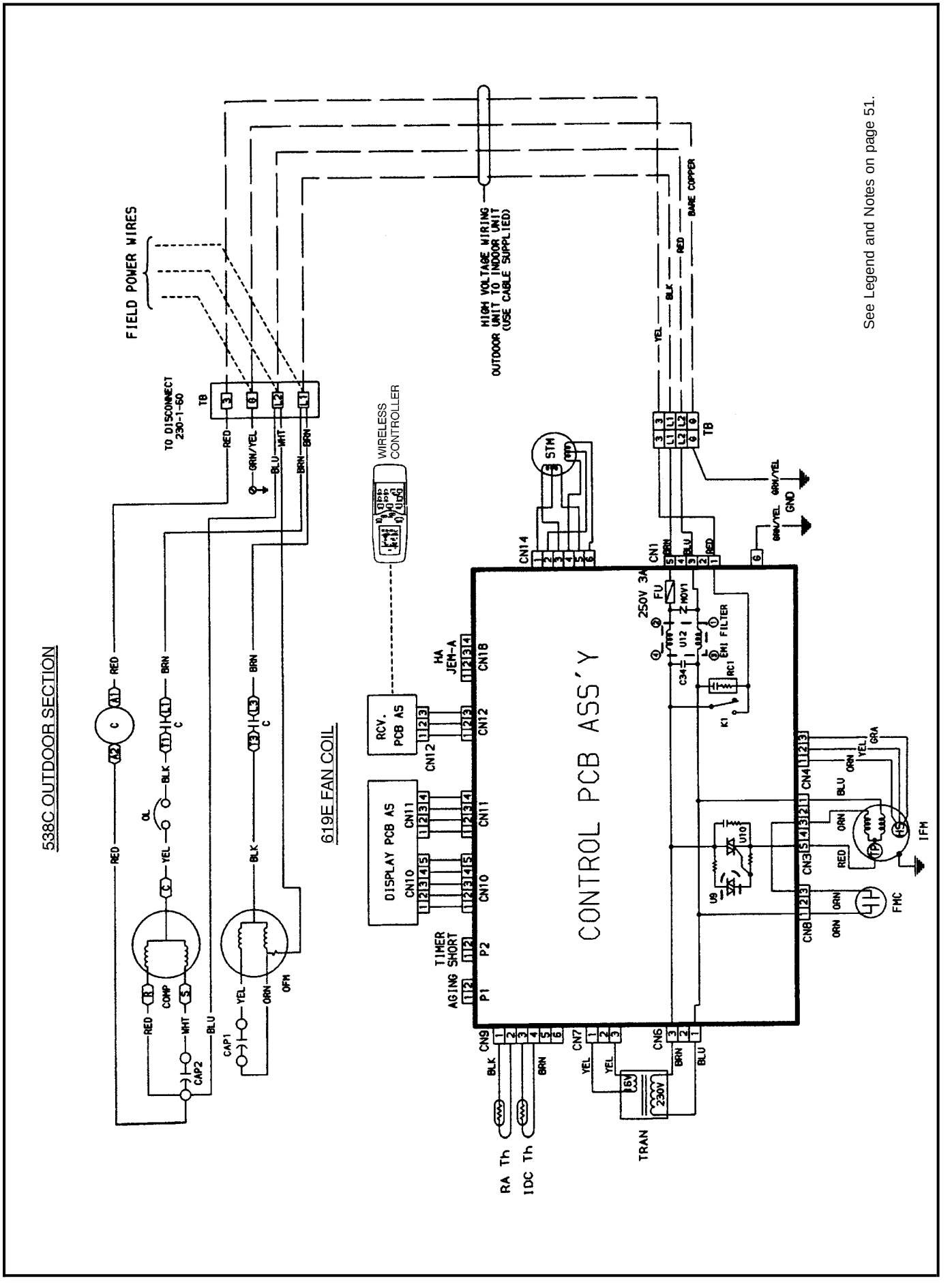
UNIT	FAN SPEED	OCTAVE BAND DATA (dBA)						
		125	250	500	1000	2000	4000	8000
538C009	H	48.9	54.9	58.3	59.1	54.9	49.1	39.9
538C012	H	49.3	59.1	59.0	60.0	55.2	49.2	44.0
538A018	H	55.1	55.5	58.4	61.6	61.2	56.0	45.5
538A024	H	48.6	55.8	59.6	61.8	59.3	55.1	44.2
538A030	H	67.5	58.0	59.0	60.5	51.5	48.0	40.5
538A036	H	47.3	55.3	59.2	61.3	57.9	52.3	44.9
538A048	H	58.5	63.2	64.3	65.3	64.2	61.3	50.7
538A060	H	54.9	59.8	63.6	64.5	63.9	60.1	50.3
619E009	H	36.5	40.3	45.2	48.2	42.3	33.2	31.2
	M	32.8	37.9	43.6	44.9	39.1	29.8	31.2
	L	31.7	36.6	41.6	41.6	35.4	27.7	31.2
619E012	H	36.7	43.5	50.2	51.1	46.5	38.6	31.7
	M	33.6	42.5	47.1	48.8	43.4	36.2	33.4
	L	33.5	41.6	43.8	45.6	39.8	33.0	32.7
619E018	H	40.8	49.1	53.7	55.2	49.1	41.3	32.3
	M	38.0	46.7	50.6	51.7	44.9	35.8	31.6
	L	37.3	44.4	47.5	48.6	40.4	32.0	31.6
619E024	H	44.9	51.9	59.1	59.5	54.8	48.0	36.7
	M	43.7	50.5	57.2	57.0	51.8	44.4	33.6
	L	40.7	47.7	55.1	54.7	49.0	40.5	32.2
619C018	H	38.1	50.0	52.6	54.7	49.0	41.5	31.8
	M	36.4	47.7	50.7	52.3	46.3	37.4	29.5
	L	35.1	46.2	49.3	50.5	43.5	34.3	29.0
619C024	H	39.2	50.9	53.4	56.0	50.4	43.1	32.8
	M	38.1	50.0	52.6	54.7	49.0	41.5	31.8
	L	36.4	47.7	50.7	52.3	46.3	37.4	29.5
619C036	H	50.2	61.0	60.5	65.0	61.7	58.9	51.5
	M	47.9	58.6	58.3	62.8	59.1	56.6	48.1
	L	46.2	55.6	56.2	59.9	56.3	53.6	43.0
619C048	H	48.7	60.8	60.4	64.0	60.3	57.3	47.7
	M	47.8	59.2	59.4	63.1	59.2	56.2	46.6
	L	46.2	57.8	57.9	62.7	58.1	55.0	45.3
619C060	H	52.5	63.6	63.7	67.0	63.3	59.0	50.0
	M	51.2	61.5	61.9	66.4	60.8	56.6	47.0
	L	49.5	59.1	60.0	63.1	58.3	53.6	43.8
619F024	H	32.1	45.0	51.2	54.1	46.5	45.0	36.5
	M	42.0	44.1	48.0	47.5	42.2	37.3	NA
	L	40.9	43.0	46.9	46.5	41.1	36.2	36.8
619F036	H	45.0	45.8	50.9	51.8	47.4	38.8	35.7
	M	35.5	40.2	46.1	45.2	39.0	29.9	28.7
	L	31.2	37.8	40.3	37.0	26.5	24.5	27.3

LEGEND

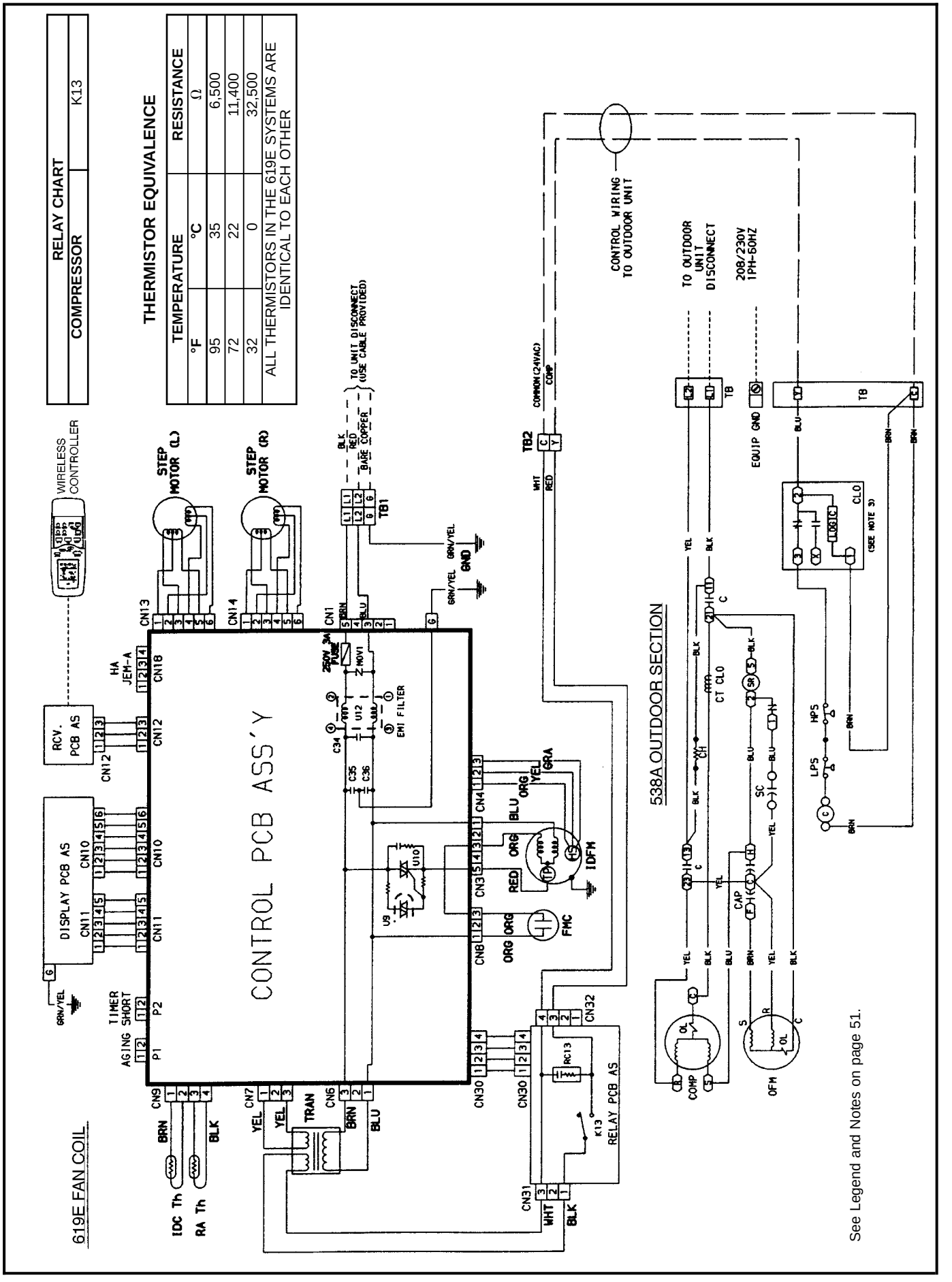
ARI — Air Conditioning & Refrigeration Institute
dBA — Decibels on the A scale
H — High
L — Low
M — Medium

NOTES:
1. Outdoor sound levels are tone corrected values taken in accordance with ARI Sound Standard 270.
2. Indoor sound levels are tone corrected values taken in accordance with ARI Sound Standard 350.

TYPICAL WIRING SCHEMATIC, HIGH WALL SYSTEMS WITH UNIT SIZES 009,012 (Size 012 Shown)



TYPICAL WIRING SCHEMATIC, HIGH WALL SYSTEMS WITH UNIT SIZES 018,024



LEGEND AND NOTES FOR TYPICAL WIRING SCHEMATICS, HIGH WALL SYSTEMS

LEGEND

AGING	—	For Burn-In Test (short terminals)
AS	—	Assembly
C	—	Contactor
CAP	—	Capacitor
CH	—	Crankcase Heater
CLO	—	Compressor Lockout
CN	—	Connector
COMP	—	Compressor
CT CLO	—	Current Sensing Loop (Lockout)
EMI	—	Electromagnetic Interference
FMC	—	Fan Motor Capacitor
FU	—	Fuse
GND	—	Ground
HA	—	Home Automation
HPS	—	High-Pressure Switch
HS	—	Hall-Effect Sensor
IDC Th	—	Indoor-Coil Thermistor
IDFM,IFM	—	Indoor-Fan Motor
JEM-A	—	Japan Electric Manufacturing Industry Association
K	—	Relay
LPS	—	Low-Pressure Switch
OFM	—	Outdoor-Fan Motor
OL	—	Overload
PCB	—	Printed Circuit Board
RA Th	—	Return-Air Thermistor
RC	—	Resistor Capacitor
RCV	—	Receiver
SC	—	Start Capacitor
SR	—	Start Relay
STM	—	Step Motor
TB	—	Terminal Block
TP	—	Thermal Protector
TRAN	—	Transformer

Terminal (Marked)

Terminal (Unmarked)

Splice

Terminal Block

Factory Wiring

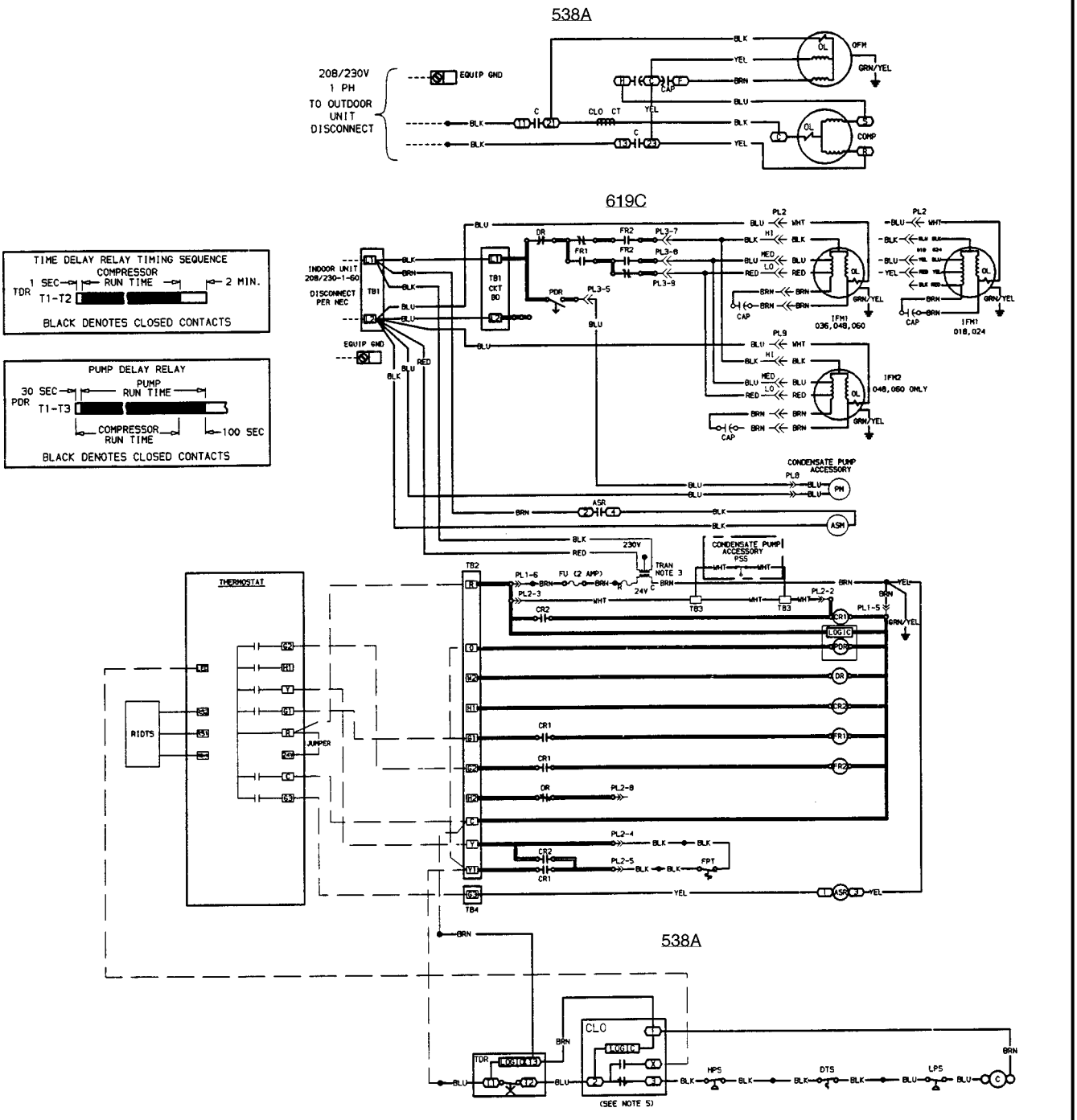
Field Control Wiring

Field Power Wiring

Accessory or Optional Wiring

NOTES:
1. If any of the original wire furnished must be replaced, it must be replaced with type 90 C wire or its equivalent.
2. Wire in accordance with National Electrical Code (NEC) and local codes.
3. The CLO locks out the compressor to prevent short cycling on compressor overloads and safety devices. Before replacing CLO, check these other devices. A minimum 1 amp turn is required to hold contacts closed.
4. A thermistor wiring cable is provided with the fan coil unit.
5. Compressor and fan motors are protected by internal thermal overloads.
6. Transformer has an internal 2 amp thermal fuse on the primary side.

TYPICAL WIRING SCHEMATIC — CEILING SUSPENDED SYSTEMS



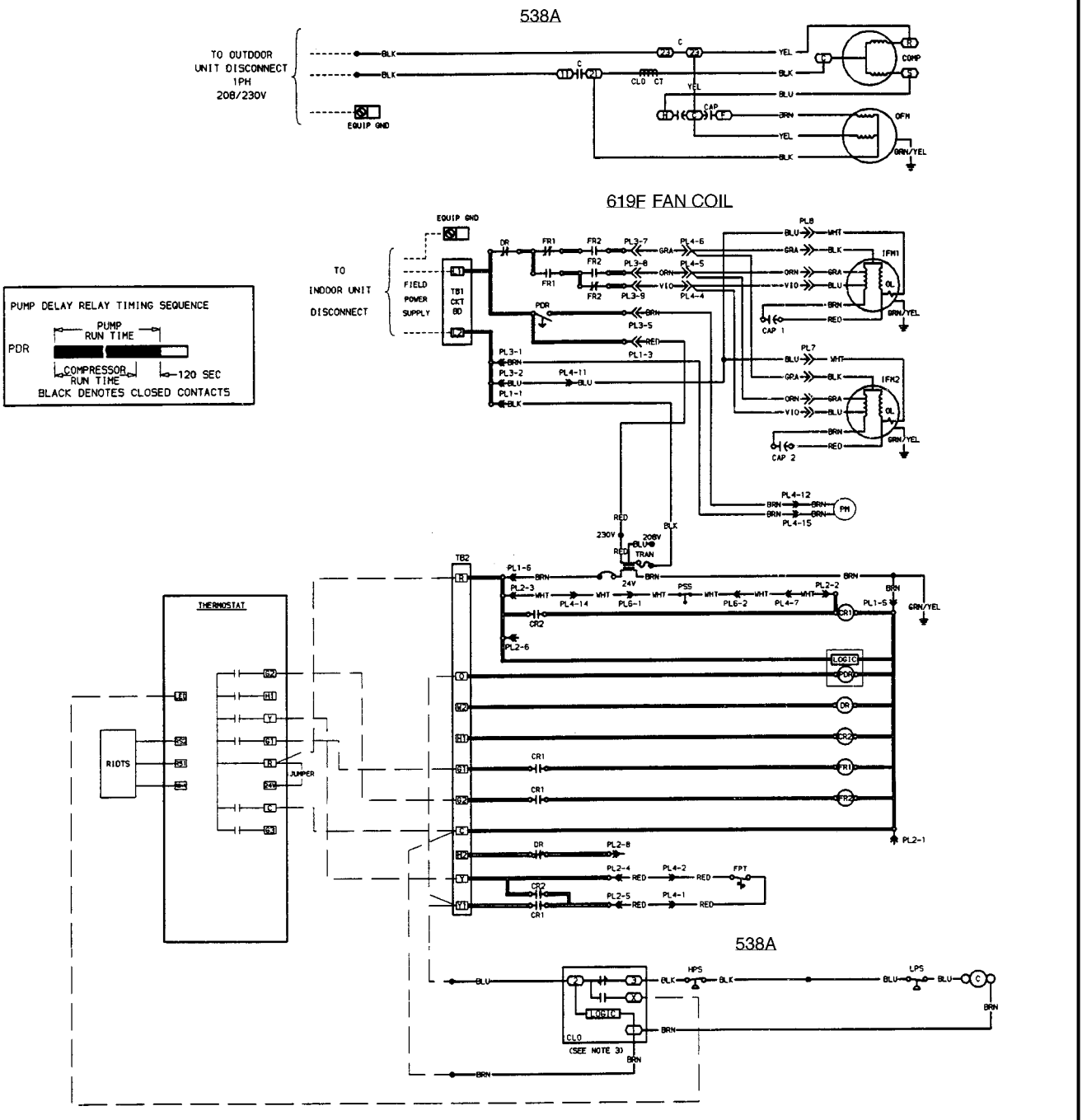
LEGEND

ASM	— Air Sweep Motor	
ASR	— Air Sweep Relay	
ASW	— Air Sweep Switch	
C	— Contactor	
CAP	— Capacitor	
CKT BD	— Circuit Board	
CLO	— Compressor Lockout	
COMP	— Compressor	
CR	— Control Relay	
CT	— Current Transformer	
DR	— Defrost Relay	
DTS	— Discharge Temp. Sensor	
EQUIP GND	— Equipment Ground	
FPT	— Freeze Protection Thermostat	
FR	— Fan Relay	
FU	— Fuse	
HPS	— High Pressure Switch	
IFM	— Indoor Fan Motor	
LPS	— Liquid Low Pressure Switch	
OFM	— Outdoor Fan Motor	
OL	— Overload	
PDR	— Pump Delay Relay	
PL	— Plug	
PM	— Pump Motor	
PSS	— Pump Shut-Off Switch	
RIDTS	— Remote Indoor Temperature Sensor	
TB	— Terminal Block	
TDR	— Time Delay Relay	
TRAN	— Transformer	

Terminal (Marked)
Terminal (Unmarked)
Splice
Terminal Block
Factory Wiring
Field Control Wiring
Field Power Wiring
Printed Circuit Board
Accessory or Optional Wiring

NOTES:
1. If any of the original wire furnished must be replaced, it must be replaced with type 90° C wire or its equivalent.
2. Wire in accordance with National Electrical Code (NEC) and local codes.
3. Transformer is thermally protected and will reset automatically.
4. IFM(S), OFM and COMP have internal thermal protection.
5. The CLO locks out the compressor to prevent short cycling on compressor overloads and safety devices. Before replacing CLO, check these devices. Minimum one amp turn required to hold contacts closed.

TYPICAL WIRING SCHEMATIC IN-CEILING CASSETTE SYSTEMS



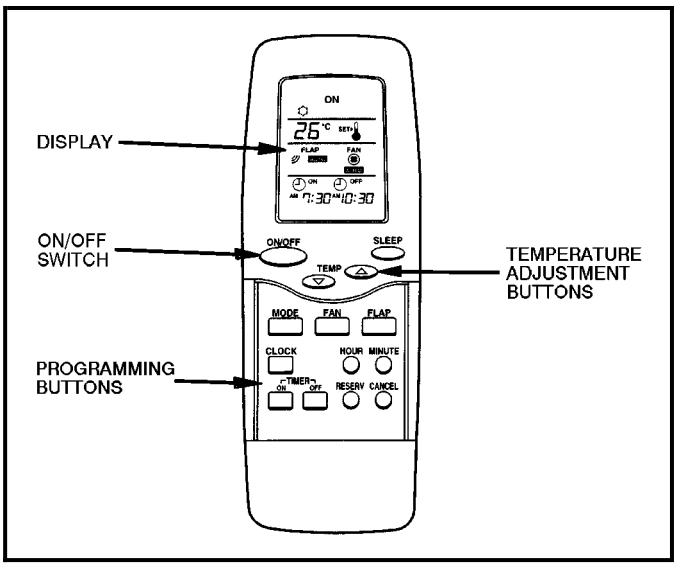
LEGEND

C	— Contactor	
CAP	— Capacitor	
CKT BD	— Circuit Board	
CLO	— Compressor Lockout	
COMP	— Compressor	
CR	— Control Relay	
CT	— Current Transformer	
DR	— Defrost Relay	
EQUIP. GND.	— Equipment Ground	
FPT	— Freeze Protection Thermostat	
FR	— Fan Relay	
HPS	— High Pressure Switch	
IFM	— Indoor Fan Motor	
LPS	— Low Pressure Switch	
OFM	— Outdoor Fan Motor	
OL	— Overload	
PDR	— Pump Delay Relay	
PL	— Plug	
PM	— Pump Motor	
PSS	— Pump Shutoff Switch	
RIDTS	— Remote Indoor Temperature Sensor	
TB	— Terminal Block	
TRAN	— Transformer	

Terminal (Marked)
Terminal (Unmarked)
Splice
Terminal Block

Factory Wiring
Field Control Wiring
Field Power Wiring
Printed Circuit Board
Accessory or Optional Wiring

NOTES:
1. If any of the original wire furnished must be replaced, it must be replaced with type 90° C wire or its equivalent.
2. Wire in accordance with National Electrical Code (NEC) and local codes.
3. Transformer is thermally protected and will reset automatically.
4. IFM(S), OFM and COMP have internal thermal protection.
5. The CLO locks out the compressor to prevent short cycling on compressor overloads and safety devices. Before replacing CLO, check these devices. Minimum one amp turn required to hold contacts closed.



Wireless Controller

CONTROL SYSTEM — The 619E unit is equipped with a microprocessor control which operates the system. This control is located in the control box of the fan coil unit, with thermistors located in the fan coil inlet and on the indoor coil. These thermistors monitor system operation and control the operating mode. To change settings or modes of operation, use the factory-supplied infrared wireless remote controller (see above). This controller allows the fan coil unit to be operated from within the same room without any wire connections to the unit.

SYSTEM OPERATION — This system is controlled by a microprocessor designed to give optimum levels of comfort and operating efficiency. The control is located in the 619E unit. To operate the unit, the factory-supplied remote controller is required.

There are 9 operating modes (including the off mode) for the unit. Each mode operates as follows:

Off Mode — When the unit is in the off mode, all functions (compressor, outdoor fan, indoor fan, and air sweep) are off.

Air Circulation Mode (Fan Operation Only) — When air circulation mode is selected, the indoor fan operates continuously at the selected speed (high, medium, low, or auto). If the auto mode is selected, the indoor fan operates at low speed. The compressor and outdoor fan are off.

Cooling Mode — When the cooling mode is selected, the indoor fan operates continuously at the selected speed if the speed is high, medium, or low. If the indoor fan is in auto mode, the fan changes operating speeds depending on the difference between the room temperature and the set point. The compressor cannot run for 3 minutes from the time the system starts up or for 3 minutes from the time the compressor last operated. When the temperature of the room is equal to or greater than the selected temperature, the compressor and outdoor fan will operate until the room temperature is 2° F below the set point, and then shut off. When the room temperature is less than the selected temperature, the compressor and outdoor fan remain off.

Maximum Dehumidification Mode — When the dehumidification mode is selected, the indoor fan operates continuously at the selected speed if the speed is high, medium, or low. If the indoor fan is in auto mode, the fan changes operating speeds depending on the room temperature. If the room temperature is below the set point, the indoor fan runs at ultra-low speed, and the compressor could run for up to 4 minutes. (Ultra-low speed is a control-driven speed [not user configurable] used to sample the space when the fan would normally be off.) The compressor cannot run for 3 minutes from the time the system starts up or for 3 minutes from the time the compressor last operated.

Initial Operation — When the mode is first selected, one of the following occurs:

1. If the room temperature is above or equal to the selected temperature, the unit operates for 16 minutes and the compressor and outdoor fan operate. The indoor fan will operate as in the cooling mode. After 16 minutes of operation (or when the room reaches 2° F below set point), the unit switches to normal dehumidification operation.
2. If the room temperature is below the selected temperature, the unit operates for 8 minutes as follows: The compressor and outdoor fan will operate for 3 minutes. The indoor fan will operate at low speed, and 30 seconds after the compressor stops, the indoor fan stops. The unit remains off for 1 minute, and then the indoor fan starts at ultra-low speed for 30 seconds. The unit then switches to normal dehumidification operation.

Normal Operation — One of the following will take place:

1. When the temperature of the room is equal to or greater than the selected temperature (by not more than 3° F), the unit will operate for 8 minutes as follows: the compressor and outdoor fan will operate for 3 minutes. The indoor fan will operate at low speed, and 30 seconds after the compressor stops, the indoor fan stops. The unit remains off for 1 minute, and then the indoor fan runs at ultra-low speed for 30 seconds. The normal dehumidification operation is repeated for the newly sensed room temperature.
2. If the room temperature is equal to or greater than the selected temperature, but not by more than between 4° F and 6° F, the compressor and outdoor fan operate for 4 minutes. The indoor fan runs at ultra-low speed and will stop 30 seconds after the compressor stops. After 3 minutes, the indoor fan runs at ultra-low speed for 30 seconds. The normal dehumidification operation is repeated for the newly sensed room temperature.
3. When the room temperature is equal to or more than 4° F below the selected temperature, the system operates as follows: The compressor and outdoor fan operate for 3 minutes. The indoor fan operates at ultra-low speed and will stop 30 seconds after the compressor stops. After 4 or 5 minutes, the indoor fan starts at ultra-low speed for 30 seconds. The normal dehumidification operation is repeated for the newly sensed room temperature. If the room temperature is still 4° F below the selected temperature, the compressor, outdoor fan, and indoor fan remain off. After 7½ minutes, the indoor fan operates at ultra-low speed for 30 seconds. The normal dehumidification operation is repeated for the newly sensed room temperature.

Sleep Mode — The sleep mode timer will turn the unit off when the timer reaches zero minutes. The durations that can be selected are 1, 2, 3, or 7 hours. After the initial 30 minutes, the user set point shifts approximately 1° F warmer. This sequence repeats itself every 40 minutes up to a total of 150 minutes.

When in sleep mode the display on the remote controller is dimmed.

Awake Mode — The awake timer will turn the unit on when the timer reaches zero minutes. The unit starts in the same mode and at the same selected temperature as when the system shut off. If the room temperature is not within approximately 5 F of the set point 40 minutes before start-up, the unit runs before the awake timer reaches zero to achieve the set point temperature at start-up.

Automatic Operation Mode for Cooling Only Systems — The unit samples the air in the room. Based on the room temperature, the unit selects one of the following modes:

1. Cooling Mode — If the room temperature is more than 82.4 F with a preset temperature of 78.8 F.
2. Dry Mode — If the room temperature is more than 75.2 F and less than 82.4 F with a preset temperature of 77 F.
3. Fan Only Mode — If the room temperature is less than 75.2 F.

   The preset temperature can be changed by ±4° F using the remote control.

Test Mode — The test mode can be selected by setting the slide switch on the fan coil unit to TEST position. The slide switch is located on the front of the unit. The fan coil unit will start immediately (there is no compressor time delay when using test mode) in cooling mode with an infinitely low set point. The indoor fan speed will be at the high setting, and the swing louvers will be on (moving up and down).

NOTE: The unit cannot be controlled by the remote controller until the slide switch is returned to the REMOTE position.

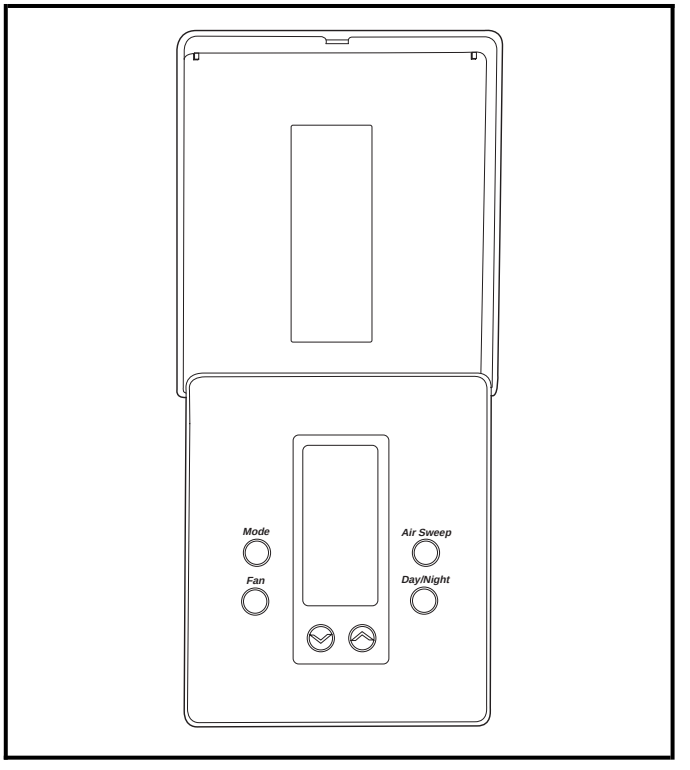
Emergency Mode — This mode is only to be used if the remote controller is lost, damaged, or the batteries are discharged. To initiate emergency mode, manually move the slide switch on the fan coil unit to the EMER position. The unit is automatically operated in cooling mode according to room temperature. Emergency operation settings are as follows:

1. Operation mode: AUTO
2. Fan Speed: AUTO
3. Cooling set point: 77 F
4. Timer Mode: Continuous

NOTE: The unit cannot be controlled by the remote controller until the slide switch is returned to the REMOTE position.

OPERATING MODE MEMORY — After the system is turned off or after a power failure, the system remains in the last operating mode selected. When the system is turned back on, or when power is automatically restored, operation continues in the same operating mode as when power shut down.

OPERATING FAULT DIAGNOSIS — The system includes an automatic diagnosis feature which is activated under difficult or unacceptable operating conditions. If such conditions occur, the system stops automatically, the operating fault signal appears (green ‘‘UNIT ON’’ light on the front of the fan coil unit flashes), and an analysis of the system operating conditions is initiated. The system is restarted automatically as soon as normal conditions have been restored, or it will remain off. If the system does not start again, the green ‘‘UNIT ON’’ light flashes an error code.



Remote Thermostat

Ceiling-suspended and cassette fan coil units have a relay board which controls system operation in response to a room thermostat. The user may manually select any one of 3 fan speeds for unit operation. Systems include a wired 24 v thermostat (see above). Systems may be equipped with an accessory power ventilation kit and/or condensate pump.

FAN OPERATION — Fan speed can be selected by pressing the fan button (high, medium, or low speed choices). The fan(s) is capable of operation when unit mode is set on either cooling, heating, or auto mode. When the fan(s) is operating in medium or high speed and the unit is equipped with the power ventilation kit, the ventilation fan will operate to provide fresh air. If the mode is set to the AUTO position, then the fan will operate with the outdoor unit compressor.

COOLING MODE OPERATION — When the room thermostat senses a demand for cooling, the fan coil relay board is energized. The indoor fan(s) will start at the selected speed (if it is not already operating).

The internal condensate pump (if so equipped) runs when the unit is in cooling mode. As long as the condensate float switch and freeze protection thermostat are closed, the cooling relays in the fan coil unit will close. This energizes the compressor and outdoor fan in the outdoor unit.

The compressor will continue to operate until the room thermostat is satisfied. When the cooling demand is satisfied, the compressor and outdoor fan will stop. If the system is in the AUTO position, the indoor fan will stop with the compressor. If the unit has the accessory ventilation kit, the ventilation fan will operate whenever the indoor fan is set for medium or high speed.

OPERATING SEQUENCE — HIGH WALL FAN COIL SYSTEMS (cont)

SYSTEM SAFETIES — The system is equipped with the following safety devices to protect system components:

1. Condensate float switch (619C units equipped with accessory condensate pump, cooling cycle only) — If the level of condensate in the drain pan rises too high, the condensate float switch will turn off the compressor and outdoor fan until the condensate level returns to normal. The indoor fan will continue to run.
2. Outdoor Unit Safeties — These units are protected by the following devices:
   - high-pressure switch
   - low-pressure switch (condensing units only)
   - compressor internal overloads
   - outdoor-fan motor internal overload

   NOTE: Outdoor units with scroll compressors are also protected by a high discharge gas temperature sensor and a 2-minute timer to prevent possible reverse rotation of the compressor.

Should any of these devices trip after the compressor is energized, the Cycle-LOC™ protection device will lock out the outdoor unit (turn it off) to prevent cycling on a safety device.

THERMOSTATS — The included thermostats are primarily for cooling applications, but can be used when both cooling and heating set points are required. When set in AUTO mode the space conditions are maintained by calling for either cooling or heating and maintaining at least a 2 degree differential between them. Indoor fan will operate in all instances either in auto mode or in a pre-selected manual mode. Automatic mode operation is as follows:

Auto Cooling mode:	Y	contact will be closed.
	H1	contact open.
Auto Heating mode:	Y	contact open
	H1	contact will be closed.

Other thermostat operating features include the following:

- Center (orange) LED is for AUX heat.
- Right-hand (red) LED indicates a fault — compressor lock-out when wired.
- Filter indicator on display screen becomes activated at 250 hrs of run time. To reset, hold fan button in for 5 seconds.
- Terminal block RSI, RS2, RS+V can be used for a remote indoor sensor so that the thermostat can be located elsewhere (secure room).

OPERATING MODE MEMORY — After the system is turned off or after a power failure, the system remains in the last operating mode selected. When the system is turned back on, or when power is automatically restored, operation continues in the same operating mode as when the system shut down.

AUTOMATIC AIR SWEEP (Ceiling Suspended Systems Only) — All units are equipped with an automatic air sweep feature which automatically directs the airflow louvers up and down to provide optimum room air circulation. If the auto sweep feature is not desired, temporarily start the auto sweep using the remote thermostat (press Air Sweep button). When the louvers are in the desired position, turn auto sweep off (press Air Sweep button again) to hold them in that position.

ENGINEER'S SPECIFICATION GUIDE — OUTDOOR CONDENSING UNIT (Models 538A and 538C)

GENERAL: Furnish and install a Model 538A or 538C air-to-air cooling unit in combination with a fan coil unit in the location and manner shown on the plan drawings. The unit shall be designed and tested for use with Refrigerant R-22 and shall be equipped with refrigerant line fittings which permit sweat connections.

Nominal system electrical characteristics shall be _____ v, _____ ph, 60 Hz. Each unit shall be capable of satisfactory operation within voltage range of _____ v to _____ v.

MAXIMUM DIMENSIONS: Outdoor unit — width _____ in., depth _____ in., height _____ inches.

COOLING CAPACITY: Total system cooling capacity shall not be less than _____ Btuh with indoor air quantity of cfm at _____ F wet bulb temperature of air entering outdoor unit. Sensible heat capacity shall not be less than _____ Btuh with _____ F dry bulb temperature. Compressor power input shall be _____ v or less at these conditions.

OUTDOOR CONDENSING SECTION: The coil shall be constructed of aluminum plate fins mechanically bonded to copper tubing with all joints brazed. Coil shall be _____ rows deep with a nominal fin spacing of _____ fins per in., and shall have a face area of not less than _____ square ft.

Outdoor unit shall contain a rotary or scroll compressor with a crankcase heater (non-scroll compressor units), oil system, operating oil charge, internal motor protection and spring isolation. Outdoor fans shall be direct-drive propeller type, shall discharge air horizontally, shall be totally enclosed, and shall have permanently lubricated sleeve bearings.

CONTROL CIRCUIT: Controls and protective devices shall include time-delay restart, automatic restart on power failure, 3-pole contactors (3-phase units), safety lockout if any safety is open, high- and low-pressure switches, automatic condenser-fan motor protection, start capacitor and relay (single-phase units without scroll compressors), system diagnostics, high condensing temperature protection (when matched with 619C or 619E fan coil unit), compressor motor current and temperature overload protection, high pressure relief, and condenser fan failure protection. A 24-v transformer shall be factory installed and wired on outdoor condensing units for external control circuit, except for 538C units, which shall supply line voltage to fan coil.

APPROVALS: Unit performance shall be certified in accordance with ARI Standards 210/240 and 270 (latest versions). Unit shall be constructed in accordance with ASHRAE 15 (latest revision), NEC and CSA. Unit shall carry the UL listing label.

FIELD-INSTALLED ACCESSORIES: Low-ambient kit, winter start control (unit sizes 018-060 only) and crankcase heater (scroll units only).

ENGINEER'S SPECIFICATION GUIDE — HIGH WALL FAN COIL UNITS (619E)

GENERAL: Furnish and install indoor, wall-mounted, direct expansion, fan coil unit to be used without ductwork. Unit shall consist of tangential, direct-drive fan, fan motor, cooling coil, piping connectors, electrical controls, microprocessor control system, integral temperature sensing, and factory-supplied mounting bracket. Unit shall be capable of being used in a refrigerant circuit with a matching air-cooled outdoor condensing unit.

Nominal unit electrical characteristics shall be _____ v, _____, single phase, 60 Hz. The unit shall be capable of satisfactory operation within voltage limits of _____ v to _____ v.

Unit shall be capable of providing a constant volume of air at a specified external static pressure within the unit nominal operating range.

MAXIMUM DIMENSIONS: Indoor unit — width _____ in., depth _____ in., height _____ inches.

CABINET: Cabinet discharge and inlet grilles shall be attractively styled, high-impact polystyrene. Cabinet shall be fully insulated for improved thermal and acoustic performance.

FAN SECTION: Fan shall be tangential direct-drive blower type with air intake at the upper front face of the unit and discharge at the bottom front. Automatic, motor-driven vertical air sweep shall be provided standard.

Air sweep operation shall be user selectable. Horizontal direction may be manually adjusted (using remote controller) and vertical air sweep may be manually set.

COIL SECTION: Coil shall be copper tube with aluminum fins and galvanized steel tube sheets. Fins shall be bonded to the tubes by mechanical expansion. A drip pan under the coil shall have a drain connection for hose attachment to remove condensate. Condensate pan shall have internal trap and auxiliary drip pan under coil header.

NOTE: The size 009 and 012 units shall use capillary tubes in the *outdoor* unit for refrigerant control, and the size 018,024 units shall use an accessory AccuRater® piston refrigerant metering device in the *indoor* unit.

CONTROLS: Controls shall consist of a microprocessor-based control system which shall provide the following functions as a minimum: automatic restart, a timer function, temperature-sensing controls, evaporator coil freeze protection, wireless infrared remote control, auto. stop features, automatic airsweep control, dehumidification mode, fan-only operation, diagnostics, user-selectable fan speed control, and compressor restart time delay.

APPROVALS: Unit shall be rated (when matched with a 538A condensing unit) per ARI Standards 210/240 and shall be listed in the ARI directory as a matched system. Units shall be UL and CSA listed.

ACCESSORIES: Condensate pump and charcoal filter kit.

ENGINEER'S SPECIFICATION GUIDE — CEILING-SUSPENDED FAN COIL UNITS (Model 619C)

GENERAL: Furnish and install indoor, under-ceiling mounted, direct expansion fan coil unit to be used without ductwork. Unit shall consist of centrifugal blower type fan, fan motor, cooling coil, piping connectors, electrical controls, solid-state electromechanical control system, and ceiling mounting brackets. Unit shall be capable of being used in a refrigerant circuit with a matching air-cooled outdoor condensing unit.

Nominal unit electrical characteristics shall be _____ v, single phase, 60 Hz. The unit shall be capable of satisfactory operation within voltage limits of _____ v to _____ v.

Unit shall be capable of providing a constant volume of air at a specified external static pressure within the unit nominal operating range.

MAXIMUM DIMENSIONS: Indoor unit — width _____ in., depth _____ in., height _____ inches.

CABINET: Cabinet shall be zinc-coated bonderized steel finished with a baked enamel paint. Inlet grilles shall be attractively styled, high-impact polystyrene. Matching mounting brackets shall be provided.

FAN SECTION: Fan shall be centrifugal blower type with air intake in the bottom rear of the unit and discharge in the front. Automatic, motor-driven, vertical air sweep shall be provided standard.

COIL SECTION: Coil shall be copper tube with aluminum fins and galvanized steel tube sheets. Fins shall be bonded to the tubes by mechanical expansion. A drip pan under the coil shall have a drain connection for attachment of piping to remove condensate.

CONTROLS: Controls shall consist of a solid-state electromechanical control system which shall provide the following functions as a minimum: automatic restart, non-programmable thermostat, filter status indicator, automatic airsweep control, fan-only operation, user-selectable fan speed control, and compressor restart time delay.

APPROVALS: Unit shall be rated (when matched with a 538A condensing unit) per ARI Standards 210/240 and shall be listed in the ARI directory as a matched system. Units shall be UL and CSA listed.

ACCESSORIES: Automatic start-stop timer, internal condensate pump, fresh air intake kit, indoor guard kit, electronic programmable thermostat, and power ventilation kit.

ENGINEER'S SPECIFICATION GUIDE — IN-CEILING CASSETTE FAN COIL UNITS (Model 619F)

GENERAL: Furnish and install indoor, in-the-ceiling mounted, direct expansion fan coil unit to be used without ductwork. Unit shall consist of centrifugal, direct-drive blower type fan, fan motor, cooling coil, piping connectors, electrical controls, condensate pump and hanging brackets. Unit shall be capable of being used in a refrigerant circuit with a matching air-cooled outdoor condensing unit.

Nominal unit electrical characteristics shall be _____ v, single phase, 60 Hz. The unit shall be capable of satisfactory operation within voltage limits of _____ v to _____ v.

Unit shall be capable of providing a constant volume of air at a specified external static pressure within the unit nominal operating range.

MAXIMUM DIMENSIONS: Indoor unit — width _____ in., depth _____ in., height _____ inches.

CABINET: Cabinet shall be constructed of zinc-coated steel. Fully insulated discharge and inlet grilles shall be attractively-styled, high-impact polystyrene. Cabinet shall have filter track and cleanable filters which shall be accessible from below with a 1/4-turn fastener. Adjacent room cooling shall be provided by a simple knockout in the cabinet side panel, and cabinet shall have provisions to accommodate a limited amount of ductwork, if desired.

FAN SECTION: Fan shall be centrifugal, direct-drive blower type with air intake in center of the unit and discharge on the perimeter. Air louvers shall be adjustable for 2, 3, or 4-way discharge.

COIL SECTION: Coil shall be copper tube with aluminum fins and galvanized steel tube sheets. Fins shall be bonded to the tubes by mechanical expansion. A drip pan under the coil shall have a drain connection for hose attachment to remove condensate.

CONTROLS: Controls shall be 24 v, and shall be easily operated by the user from a wall-mounted control unit. Float control shall be in the condensate sump to shut unit down in case of pump malfunction. A wall-mounted electro-mechanical thermostat with 3 fan speed selections, and an auto/manual switch shall be supplied for field installation. Evaporator coil freeze protection shall be provided.

APPROVALS: Unit shall be rated (when matched with a 538A condensing unit) per ARI Standards 210/240 and shall be listed in the ARI directory as a matched system. Units shall be UL and CSA listed.

ACCESSORIES: Automatic start/stop timer, power ventilation kit, fresh air intake kit, and electronic programmable thermostat.

Bryant
Payne
Air Conditioning

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

UNIT MUST BE INSTALLED IN ACCORDANCE WITH INSTALLATION INSTRUCTIONS

Copyright 1997 Carrier Corporation

Printed in U.S.A. 9/97 CATALOG NO. 5253-800